A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF COMPUTER ASSISTED INSTRUCTION ON KNOWLEDGE AND PRACTICE REGARDING DENGUE FEVER AMONG THE MOTHERS OF SCHOOL GOING CHILDREN AT SELECTED VILLAGES, THANJAVUR DISTRICT.

By

Reg No:301217351

SUBMITTED TO THE A DISSERTATION TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER-2014.

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OCTOBER-2014

DECLARATION

I hereby declare that the present dissertation titled "A quasi experimental study to assess the effectiveness of computer assisted instruction on knowledge and practice regarding dengue fever among the mothers of school going children at selected villages, Thanjavur district", outcome of original research work undertaken and carried out by me, under the guidance of Research guide Prof. Mrs.Vanitha Innocent Rani, M.Sc (N), Ph.D, Principal of Our Lady of Health College of Nursing and Mrs. B.Ambika, M.sc (N), Reader, Our Lady of Health College of Nursing, Thanjavur.

I also declare that the material of this thesis has not found in any way, the basis for the award of any degree / diploma in this University or any other University.

301217351

CERTIFICATE

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

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S.NO	ABBREVIATIONS
1	$X^{2\text{-chi square}}$
2	SD- Standard Deviation
3	N- Number of sample
4	S-Significant
5	NS-Not Significant
6	CAI-Computer Assisted Instruction
7	IEC –Information education communication
8	OLH- CON -Our Lady of Health College of Nursing

CHAPTER -1

INTRODUCTION

"**Infectious disease will last as long as humanity itself"**

K.Park

In the world of continuous change of new concept are bound to emerge based on new patterns of thought. Health has evolved over the century as a concept from individual concern to a worldwide, social goal and encompasses the whole quality of life. Health can mean different things to different people. To some it may mean freedom from any sickness or disease while it may mean harmonious functioning of all body system. It may be constructed as a feeling wholeness and a happy frame of mind. Long ago Florence Nightingale. The founder of modern nursing pointed out that the destiny of nursing lies in the care of the sick but in the prevention of disease and promotion of health. These concepts have been rediscovered in recent times. Today health is recognized as a fundamental right of human being.

The worldwide incidence is estimated to be 50 to 100 million cases of dengue fever (DF) and several hundred thousand cases of dengue hemorrhagic fever (DHF) per year. DHF is more serious and the fatality rate is about 5%. Children younger than 15 years comprise 90% of DHF subjects in the world. DHF can affect both adults and children.

Over the past 10-15 years, next to diarrheal disease and acute respiratory infection, dengue fever has become a leading cause of hospitalization and deaths, among children in the south East Asian region. The Incidence of this fever is

variable and depends on the geographical region and the density of mosquito-borne diseases in a region.

In 2012 an outbreak occurred in India during which a total of 47,029 DF cases and 242 deaths were reported – three times higher than the previous year. Twelve states reported a large number of cases, including Tamil Nadu which recorded 12,264 from various districts. We discuss methods of prevention and control.

At 9,249, Tamil Nadu reported the highest number of cases in the country, followed by West Bengal which reported 6,067 cases. The highest number of deaths was also reported in Tamil Nadu where 60 succumbed to the disease, followed by Maharashtra where 59 people died of dengue.

Dengue fever is the most common among arthropod borne diseases. It is a disease of tropical and subtropical regions affecting Urban & Peri Urban areas. According to world Health Report (1999) the increase of dengue & dengue hemorrhagic fever occurs due to increased population, urbanization, inappropriate water management, travel & trade.

The mosquito rests indoors, in closest and other dark places, outside, they rest where it is cool and shaded. The female mosquito lays her eggs in water container in and around homes, school and other areas in towns or villages. These eggs become adult in about 10 days. Dengue mosquitoes breed in stored exposed water collection. Favored breeding places are Barrels, drums, pots, tanks, tyres etc.

K.PARK, (2011), Dengue fever is a self limiting disease & represents the majority of case of dengue infection. A prevalence of "Aedes aegypti" and Aedes albopictus together with the circulation of dengue virus of more than one type in any particular area tends to be associated with out breaks of DHP/DSS.

Dengue fever is endemic in India, It is widely prevalent. The term endemic is described as (En - In, demos – people). It refers to the constant presence of disease or infectious agent within a given geographic area or population group, without importation from outside.

Dengue virus is arbo virus capable of infecting humans, and causing disease. The infections may be asymptomatic or may lead to

a) Classical dengue fever
b) Dengue Hemorrhagic fever with shock
c) Dengue Hemorrhagic fever without shock.

Therefore to prevent the occurrence of dengue fever is essential among the most vulnerable groups. The main aim is to keep an individual healthy, restoring the health if disease / illness has occurred and also to minimize suffering & distress.

Parul datta,(2013), In India the risk of dengue has shown an increase in recent years due to rapid urbanization, life style changes & deficient water management.

Improper water storage practices in urban, peri urban & rural area lead to proliferation of mosquito to breeding sites.

Dengue fever is an acutely infectious mosquito borne viral disease; it is a life threatening fever and is transmitted through the "Aedes Mosquito". The disease is also called BREAK BONE FEVER or DANDY FEVER.

It is probably one of the most important viral borne diseases in terms of human morbidity & mortality. The world health organization estimates that more than 2.5 billion people are at risk of dengue infections.

Dengue has become a leading cause of hospitalization and deaths among children in the south East Asia region. DHF is increasing and spreading to new cases. It is repeated from 18 states since 1996. During 2005 there were 11, 928

cases with 156 deaths and during 2006 there were 1235 cases and 10 deaths from dengue in the country. In Karnataka 587 cases with 17 deaths from dengue since 1996 NAMP has been monitoring dengue situation in the country. Government of India has issued certain guidelines on prevention and control of dengue.

Gupta E, Dar L, Kappor G, **(2012),** A study was performed on 256 patients with febrile illness admitted to the Christian Medical College and hospital, Ludhiana, India (2012). On the basis of the clinical criteria and Laboratory test 124 patients were diagnosed with dengue viral infection and these patients were investigated in detail serologically test were attempted in only 84 patients, and all of these tested positive for anti dengue Immunoglobulin M (IgM) antibodies. Of the 124 patients with dengue infections, 41 (23%) were classified with dengue fever (DF) and 83 (66.9%) with dengue hemorrhagic fever (DHF). 4 (3.2%) whom had dengue shock syndrome (DSS), cutaneous involvement was seen in 46.8% of patients. The most common symptom being maculopopular Morbilliform eruption. These manifestations together with simple laboratory test will be helpful in the early diagnosis of dengue viral infection.

Rajesh Verma,et al (2011) ,who stated that Twenty-six patients with neurological complications associated with confirmed dengue infection were observed during the last 2 years. Eighteen of these patients were male. Of the 26 patients, 10 patients were suffering from brachial neuritis, four patients had encephalopathy, three patients were consistent with the diagnosis of Guillain Barre syndrome, three patients had hypokalemic paralysis associated with dengue fever and two patients had acute viral myositis. Opsoclonus-myoclonus syndrome was diagnosed in two patients, myelitis in one patient and acute disseminated encephalo-myelitis also in one patient.

Ratana Panpanich et al (2011),Who stated that Dengue shock syndrome is the most severe form of dengue hemorrhagic fever, one of the leading causes of death in children. Observational studies have suggested corticosteroids may benefit people with dengue shock syndrome.

Four trials involving 284 participants met the inclusion criteria. Corticosteroids were no more effective than placebo or no treatment for reducing the number of deaths (RR 0.68, 95% CI 0.42 to 1.11; 284 participants, 4 trials), the need for blood transfusion (RR1.08,0.52 to 2.24; 89 participants, 2 trials), or the number of serious complications (convulsions and pulmonary hemorrhage) as reported in one trial (63 participants).There is insufficient evidence to justify the use of corticosteroids in managing dengue shock syndrome. As corticosteroids can potentially do harm, clinicians should not use them unless they are participating in a randomized controlled trial comparing corticosteroids with placebo.

Ahemed Itrat. (2008) conducted a study on knowledge, awareness and practice regarding dengue fever among the Adult populations. A cross- sectional pilot study was conducted by Ahmed Itrat among people visiting tertiary care hospitals in Karachi. Through convenience sampling, a pre- tested and structured questionnaire was administered through a face- to- face unprompted interview with 447 visitors. Knowledge was recorded on a scale of 1-3.He concluded that, about 89.9% of individuals interview had heard of dengue fever. Use of anti mosquito spray was be most prevalent(48.1%) preventive measures television was considered as the most important and useful source of information on the disease.

Jamaice (2010), conducted a study on knowledge attitude and practice regarding dengue infection. Dengue virus infection causes significant morbidity and mortality in most tropical and Sub -tropical countries of the world. Dengue

fever is endemic in Jamaica and continues to be a public health concern. There is a pancity of information on knowledge, attitude and practice of Jamaicans regarding dengue infection. They found that, more than half of the percent (54%) had gained knowledge about sign & symptoms and mode of transmission of dengue. Approximately 47% considered dengue to be serious but preventable disease to which they are vulnerable, nevertheless a majority (77%) did not use effective dengue preventive method such as screening of homes and 51% did not used bed net.

Soodsada Nalongsack., et al (2010), this cross-sectional study was designed to assess the knowledge, attitude, and practice of people regarding dengue disease in 9 villages of the Pakse district. Purposive sampling was done to collect data from 230 subjects. They had a fair knowledge about the vector 163 (70.9%). For 101 (43.9%) respondents, their main source of information about dengue was their friends or relatives. It is encouraging that 217 (94.3%) respondents had a positive attitude that DF can be treated, and that 222 (96.5%) knew they should visit a doctor when they suffer from it. About 196 (85.2%) people stored water at home but infrequently changed it. The study indicated that the community was quite familiar with Dengue, but that there was some confusion about vaccination and water storage for domestic use.

Dengue awareness activity should be included at the school and college level. Radio and television should play an important role in conveying health information to the public and regular visits of health personnel to the villagers should be ensured.

Roland Elling, MD(,2011),over the last 50 years, the incidence of dengue has increased 30-fold, with the highest rates occurring among infants. Moreover, infants are at increased risk of dengue shock. the limited ability of the

hemodynamic system in young children to compensate for capillary leakage is believed to contribute to this phenomenon. Yet, the case-fatality rate is generally lower among infants than among adults. Dengue virus infections are endemic in most parts of the tropics and subtropics. Overall the geographical expansion of the virus has been limited by the temperature sensitivity of its main vector Aedesaegypti. However, the second most important vector, Aedes albopictus has a higher temperature tolerance.

Ghani et al (2010).who reported that investigating the platelet count of the patient for thrombocytopenia, symptoms recognition like myalgia, high febrility, purpura and dengue antibody recognition etc. The clinical information conducted was also supported with other data gathering such as demographics and the data analysis was done on the SPSS 10.0 software. The findings that were registered indicated that out of 116 patients, only 52 patients had the dengue infection. Almost all of the confirmed cases had indications of thrombocytopenia and leucopenia which are key factors in determining the dengue virus. The mortality rate in this case was that of three deaths.

Haroshi Nishiura and Scott. B. Halsted, conducted study regarding natural history of dengue virus (DENV) – 1 and DENV -4 Infections. Two experimental studies in the Philippines of DENV -4 (1924-1925) and DENV -1 (1929-1930) were reexamined. The intrinsic incubation periods were fitted to log normal distribution using the maximum likelihood method, and the infectious and extrincts incubation periods were assessed by proportions of successful transmission causing clinically apparent dengue.

He concluded that, infection periods were negatively co-related with disease severity, potentially reflecting a dose response mechanism. The historical

data provided useful details concerning serotype differences in the natural history of primary DENV infections.

Deepak BSR et al,(2013), Dengue fever caused by dengue viruses (dengue 1–4) having Aedes aegypti mosquito as their principal vector, causes symptoms such as sudden onset of fever, headache, retro-orbital pain and back pain along with severe myalgia due to which dengue fever is also known as "break-bone fever." Laboratory findings include leukopenia, thrombocytopenia and in many cases, serum aminotransferase elevations. dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS) may occur as a complication of dengue fever.A study and a randomized controlled trial showed that administration of papaya leaf juice was beneficial in dengue patients in elevating the total white cell counts and platelet counts. Based on this report, a dengue patient with thrombocytopenia and leukopenia was treated in a tertiary Ayurveda hospital.

So during the pediatric field experience the investigator noticed the prevalence of dengue fever due to lack of personal hygiene as well as environmental hygiene among the residence of rural community. Also the investigator found that the mothers had lack of knowledge related to prevention of dengue fever. Hence there is need to educate regarding the preventive measures of dengue fever to the rural community to prevent disease and to maintain good health status.

The investigator has taken the study to evaluate the effectiveness of structured teaching programme on dengue fever in view of educating the mothers of school going children on dengue fever and its prevention.

NEED FOR THE STUDY

Dengue fever (DF) is a vector borne disease caused by four closely related Dengue viruses (DENV 1-4). Dengue fever is commonly distributed in most tropical and subtropical areas, where *Aedesaegypti* and *A. albopictus*are abundant Dengue leads to considerable disease burden, morbidity, mortality especially in the tropics, with more than 2/5 th of the world's population living in areas at risk for Dengue. From being a sporadic illness, epidemics of Dengue have now become a regular occurrence worldwide.

Dengue viral infections are one of the most important mosquito-borne diseases in the world. Presently dengue is endemic in 112 countries in the world. It has been estimated that almost 100 million cases of dengue fever and half a million cases of dengue hemorrhagic fever (DHF) occur worldwide. An increasing proportion of DHF is in children less than 15 years of age, especially in South East and South Asia.

The worldwide incidence is estimated to be 50 to 100 million cases of Dengue Fever (DF) and over 500,000 cases of Dengue Hemorrhagic Fever (DHF) per year.

The Incidence of this fever is variable and depends on the geographical region and the density of mosquito-borne diseases in a region. DHF is more serious and the fatality rate is about 5%. Children younger than 15 years comprise 90% of DHF subjects in the world.

DHF can affect both adults and children. Poor surveillance system in India makes it difficult to know the exact incidence of the epidemic in the country. There have been reports regularly in medical literature from various hospitals. Between September 2001 and January 2002, during the epidemic of dengue in

Chennai, Tamil Nadu, and India nearly 800 cases were reported to the health system.

The world's largest known epidemic occurred in Cuba in 1981. More than 116,000 persons were hospitalized with as many as 11,000 cases reported in one single day. The annual average number of dengue fever/dengue haemorrhagic fever (DF/DHF) cases reported to the World Health Organization (WHO) has increased dramatically in recent years. For the period 2000–2004, the annual average was 925,896 cases, almost double the figure of 479,848 cases that was reported for the period 1990–1999. In 2001, a record 69 countries reported dengue activity to WHO and in 2002, the Region of the Americas alone reported more than 1 million cases.

Although there is poor surveillance and no official reporting of dengue to WHO from countries in the African and Eastern Mediterranean regions, in 2005–2006 outbreaks of suspected dengue were recorded in Pakistan, Saudi Arabia, Yemen, Sudan and Madagasca and a large outbreak of dengue involving >17,000 cases was documented in the Cape Verde islands in 2009.Travellers from endemic areas might serve as vehicles for further spread. Dengue epidemics can have a significant economic and health toll. In endemic countries in Asia and the Americas, the burden of dengue is approximately 1,300 disability-adjusted life years (DALYs) per million populations, which is similar to the disease burden of other childhood and tropical diseases, including tuberculosis, in these regions.

Dengue disease presents highly complex pathophysiological, economic and ecologic problems. In India, the first epidemic of clinical dengue-like illness was recorded in Madras (now Chennai) in 1780 and the first virologically proved epidemic of dengue fever (DF) occurred in Calcutta (now Kolkata) and Eastern Coast of India in 1963-1964. During the last 50 years a large number of physicians have treated and described dengue disease in India, but the scientific

studies addressing various problems of dengue disease have been carried out at limited number of centres.

In India first outbreak of dengue was recorded in 1812.Dengue fever (DF) has been recognized for many years in India since the outbreak of Dengue in 1912 in Kolkata. In south India, all the four serotypes of Dengue virus were first isolated from febrile patients in Vellore, Tamil Nadu between 1956 and 1966. During the same period Dengue virus was isolated from wild *Aedesaegypti* mosquitoes. However, until 1990 no major outbreak of Dengue fever/Dengue hemorrhagic fever (DF/DHF) was reported in Tamil Nadu. Epidemics of DF/DHF have been reported only after 1990 and were confined to certain areas of Tamil Nadu. One of the largest outbreaks in north India occurred in Delhi and adjoining areas in 1996 which was mainly due to Dengue-2 virus. Thereafter, in 2003 another outbreak occurred in Delhi and all four Dengue virus serotypes were found to be co-circulating.

However, Dengue-3 was reported to predominate in certain parts of North India in 2003.In the recent years DF/DHF outbreaks were reported in Chennai in 2001 and DF outbreaks were reported in Krishnagiri and Dharmapuri districts in 2001. In the following years (2004 and 2005) though outbreaks did not occur, a high number of cases of suspected Dengue infection were reported during rainy season in Tamil Nadu. In Tamil Nadu, there has been an increase in the number of Dengue reporting units during the last nine years. In 1998, Dengue cases were reported only from 4 units, which had been increased to 33 units in 2006. In this study, the diagnosis, geographical spread, genotyping of Dengue disease in Thanjavur and Trichy between January 2011-December 2011 was undertaken and the need for continuous monitoring of vector infections.

S. Saini, Anagha G Kinikar. et. al., *(2012)* stated that Dengue fever is rapidly emerging in India, even in non endemic areas. Dengue fever is more

commonly seen in adults and older children. It was earlier confined to urban areas and now has penetrated into rural setup. Out of total 917 blood samples tested, 281(30.6%) were positive for one or more of three markers. Of 281 blood samples NS1 was positive in 198 cases while NS1 with either IgM or IgG was positive in 16 cases. Only IgG in 25cases and only IgM in 28 cases was observed. All the three parameters were positive in 3 cases.

The doctors of TMCH ., (January 2011 to December 2011) conducted that prospective descriptive study was undertaken, by testing suspected Dengue patients attending Thanjavur Medical College and Trichy Hospital to define the magnitude of Dengue burden, the natural history of this disease in terms of clinical presentation and outcome of the infections in hospitalized Dengue patients. The sera collected from suspected patients were analyzed for Dengue specific IgM and IgG antibodies by IgM antibody capture enzyme linked immunosorbent assay (ELISA) using NIV kit and IgGPanBio Duo Rapid Immunochromatographic Card Test (Brisbane, Australia). The total number of samples screened during the period was 200, out of which 79 (39.5%) were positive for IgM and IgG antibodies and 65 (32%) for IgM antibodies only. By clinical evaluation, Dengue fever was diagnosed in 43 patients, 18 had hemorrhagic manifestations and four patients had progressed to DSS. Though (DSS + DHF) was present in 22 patients, all of them recovered well.

Roland Elling, MD,et al (2012) reported about Dengue Fever in Children,Over the last 50 years, the incidence of dengue has increased 30-fold, with the highest rates occurring among infants. Moreover, infants are at increased risk of dengue shock. The limited ability of the hemodynamic system in young children to compensate for capillary leakage is believed to contribute to this phenomenon. Yet, the case-fatality rate is generally lower among infants than among adults.

Aubree Gordon,et. Al., (2004–2010) performed a prospective study community-based cohort study in 5,545 children aged 2–14 years in Managua, Nicaragua, between 2004 and 2010. Children were provided with medical care through study physicians who systematically recorded medical consult data, and yearly blood samples were collected to evaluate DENV infection incidence. The incidence of dengue cases observed was 16.1 cases (range 3.4–43.5) per 1,000 person-years (95% CI: 14.5, 17.8), and a pattern of high dengue case incidence every other year was observed. The incidence of DENV infections was 90.2 infections (range 45.2–105.3) per 1,000 person-years (95% CI: 86.1, 94.5). The majority of DENV infections in young children (<6 years old) were primary (60%) and the majority of infections in older children (≥9 years of age) were secondary (82%), as expected. The incidence rate of second DENV infections (121.3 per 1,000 person-years; 95% CI: 102.7, 143.4) was significantly higher than the incidence rate of primary DENV infections (78.8 per 1,000 person-years; 95% CI: 73.2, 84.9).

Victor TJ ., et al,(2010) reported that Dengue fever and dengue haemorrhagic fever (DF/DHF) have become a serious public health problem in many parts of India in recent years. Several vertical national programmes for communicable diseases, which include vector-borne diseases such as malaria and filariasis have been in operation for over five decades in India. Although the existence of all the four serotypes of dengue virus was proved as early as in 1960s, it was only after 1990, several outbreaks of DF/DHF were reported in Tamil Nadu. Further, dengue, once considered as urban problem has now penetrated into rural areas also, due to various changes in the environment. The geographic spread, increase in number of cases, reporting system, laboratory diagnosis, monitoring of density and investigation of outbreaks in Tamil Nadu during the last decade are comprehensively documented and discussed here

to further strengthen the surveillance network to prevent possible major outbreaks of DF/DHF.

Viroj Wiwanitkit. MD et. al.**,(2011**) stated that Dengue infection is a major vector-borne disease. The classical form of this infection has an incubation period of 5 to 8 days followed by fever, violent headache, and chills, with rash developing after 3 to 4 days. A summative report on the platelet count and its clinical correlation to duration of fever in 35 Thai children is presented. Most of the subjects visited to the physician with a complaint for fever. Most patients went to see the physician between the 3rd and the 5th day from the onset of fever. There is no significant correlation between platelet count and duration of fever (ANOVA test, p = 0.28.

Durgesh Nandan Jha, (2013), stated that Alarming 80% rise in dengue cases this year, In New Delhi Dengue cases have risen alarmingly across the country this year, with data showing an 80% rise in the disease till July 31 as compared to the same period last year. India has recorded 15,983 dengue cases so far in 2013 as compared to 8,899 cases in the corresponding months last year, latest health ministry data shows. But the good news is, while the cases have risen sharply, fatalities have actually declined - 56 as compared to 76 last year.

Kerala reported most dengue cases at 5,801, followed by Karnataka (3,775), Tamil Nadu (3079) and Maharashtra (961) till end-July. Delhi witnessed a sharp rise in cases over the last few weeks, with the total this year touching 54. No one has died due to dengue in the capital so far.

There have been a total of 5,376 cases of dengue in Tamil Nadu, the highest in the country this year. National Vector-Borne Diseases Control Programme

under the Union health ministry revealed that the State recorded 39 deaths from dengue this year - the highest, again.

The state with the second highest number of cases is Kerala, but it is way behind at 2,995 cases (11 deaths). Karnataka records 2,403 cases but it has the second highest number of deaths at 21.

This is the highest number of cases that Tamil Nadu has seen so far, but the last three years have not been good for the State in terms of dengue incidence. In 2011, the number of cases was 2,501, and in 2010, it was 2,051. The State seems to have managed to control the number of deaths up until this year, with 8 in 2010, and 9 in 2011.

Given the ratio of dengue cases to the number of fever cases, it appears dengue is in alarming proportions in the three southern States of Tamil Nadu, Kerala and Karnataka, said S. Elango, former director of Public Health. “When a comparison of viral activity over the last 10 years shows a definite increase in the number of cases, and when the case fatality is high, it is time to be worried,” he said.

In 2012 an outbreak occurred in India during which a total of 47,029 DF cases and 242 deaths were reported – three times higher than the previous year. Twelve states reported a large number of cases, including Tamil Nadu which recorded 12,264 from various districts.

The Hindu (2013), reported that 9,249, Tamil Nadu reported the highest number of cases in the country, followed by West Bengal which reported 6,067 cases. The highest number of deaths was also reported in Tamil Nadu where 60 succumbed to the disease, followed by Maharashtra where 59 people died of dengue. In Maharahstra, a total of 1,464 cases were reported, suggesting that a

higher percentage of people died in the state. This amounts to four per cent of the patients dying in Maharashtra compared to just 0.6 per cent in Tamil Nadu.

At Rajah Mirasudhar Government Hospital (2013), reported that admission of children suspected to have dengue is on the increase at Rajah Mirasudhar Government Hospital and Thanjavur Medical College Hospital.

At Rajah Mirasudhar Government Hospital**,** there are 143 children admitted with fever at present. Out of them, eighty three are suspected to have dengue. Only four cases have been confirmed positive in the ELISA test," Two hundred and eighteen children have been admitted for fever and out of them 13 have been reported positive," the dean said. Suspected dengue cases come from Nagapattinam, Tiruvarur, Pudukottai, Ariyalur, Thanjavur districts for admission in the two hospitals.

A Rapid Action Team (RAT) was also formed to reach the areas of dengue outbreaks expeditiously. The authorities closely monitored the vector indices such as House Index, which measured the extent of mosquito breeding, and Breteau Index, used to evaluate the strategies adopted to control mosquitoes.

The CM said that Indian Council of Medical Research (ICMR) attribute the spread of the disease to dengue virus type-I and type-III. Since May 18 the officials have conducted awareness camps in all the districts. The state also opened two paediatric wards at Tirunelveli Medical College Hospital and appointed one entomologist for every taluk (district) and one senior entomologist for three taluks has been posted. The awareness generation work and disease detection campaigns were executed by medical officers in every taluk.

The geographic distribution &number of cases increased greatly in last 30 years .There was a pandemic of dengue in 1998, which was reported from 56

countries. Over the past 10-15 years dengue has become leading causes of hospital admission &death among children next to diarrhea and ARI, in the south East Asian region. About 95% of dengue death occurs in children below 15 years. DHF is more serious and the fatality rate is about 5%.

DHF can affect both adults and children. The deaths have been attributed to a variety of reasons, such as increase in population, unplanned urbanization, inadequate waste management, water supply mismanagement, increased distribution and densities of vector mosquitoes (due to man-made, ecological and lifestyle changes), gaps in public health infrastructure, increased mobility of population and poor infrastructure in the states to monitor vector mosquito breeding.

In Tamilnadu, Thanjavur district had a highest incidence of dengue fever due to inadequate knowledge & awareness regarding prevention and control of dengue fever among the mothers. According to investigator's experience, the prevalence of dengue fever is more due to lack of personal hygiene as well as environmental hygiene among the residence of rural community. Also the investigator found that the rural mothers had lack of knowledge related to prevention of dengue fever. Hence there is a need to educate regarding the preventive measures of dengue fever to the rural community to prevent disease and to maintain good health status.

The investigator is interested in this study in view of educating the mothers of school going children on dengue fever and its prevention.

STATEMENT OF THE PROBLEM

A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF COMPUTER ASSISTED INSTRUCTION ON KNOWLEDGE AND PRACTICE REGARDING DENGUE FEVER AMONG THE MOTHERS OF SCHOOL GOING CHILDREN AT SELECTED VILLAGES, THANJAVUR DISTRICT.

OBJECTIVES OF THE STUDY:

- 1. To assess the knowledge & practice regarding dengue fever before computer assisted instruction among the mothers of school going children.
- 2. To evaluate the effectiveness of computer assisted instruction on knowledge & practice regarding dengue fever among the mothers of school going children.
- 3. To correlate the knowledge & practice regarding dengue fever among the mothers of school going children.
- 4. To associate the pre test level of knowledge & practice regarding dengue fever among the mothers of school going children with the selected demographic variables .

HYPOTHESIS:

All hypotheses were tested at 0.05level of significance.

- H1. There is a significant difference in the pretest knowledge & practice regarding dengue fever among the mothers of school going children.
- H2.There is a significant correlation between the post test scores of knowledge & practice regarding dengue fever among the mothers of school going children.
- H3. There is a significant association between the pre test level of knowledge & practice regarding dengue fever among the mothers of school going children and the selected demographic variables such as age of the mother, age of children, education of the mother ,occupation of the mother, type of family , income of family , number of children, type of house,previous exposure to dengue fever among family members, previous source of information .

OPERATIONAL DEFINITIONS:

Effectiveness:

In this study, it refers to the desired result of computer assisted instruction regarding dengue fever which will be measured by self administered knowledge and practice questionnaire.

Computer assisted instruction:

- It refers to systematic and planned teaching strategies for a group of mothers of school going children regarding dengue fever which will be taught using the computer.

Knowledge:

- It refers to the understanding and the response of the mothers of school going children regarding dengue fever as measured by self administered knowledge questionnaire.

Practice:

- It refers to the measures taken by the mothers of school going children to prevent dengue fever which will be measured by observational check list.

Dengue fever:

- It refers to an acute dengue viral illness, spread by Aedes Egypti mosquitoes and presenting with retro & periorbital pain, fever, joint pain & thrombocytopenia.

Mothers of school going children:

- In this study it refers to the mothers of school going children whose age is between 6-12yrs.

ASSUMPTIONS:

- The mothers of school going children may not have adequate knowledge & may not take adequate measures to prevent &manage dengue fever.
- The CAI on dengue fever may improve the knowledge & practice of the mothers of school going children.

LIMITATIONS:

- The study is limited to mothers of school going children whose age is between 6&12 yrs.
- The mothers of school going children are residing only at Thirukanurpatty & Vallampudhur.
- The period of study is limited to six weeks.

PROJECTED OUTCOME:

- The study will help to:
- improve the knowledge regarding dengue fever among mothers of school going children.
- to improve the practice of mothers of school going children to prevent the dengue fever among family of children in 3-16 yrs.

CHAPTER- II

REVIEW OF LITERATURE

A critical summary of research on a topic of interest, often prepared to put research problem in context.

- Denis F.Polit

SECTION A: Review of literature

SECTION B: Conceptual framework

An extensive review of literature was done to get a broader view of the problems. The review of related literature had been arranged under the following headings.

- ❖ Literature related to dengue fever and its incidence &prevalence
- ❖ Literature related to dengue fever and disease condition and its management
- ❖ Literature related to knowledge &practice regarding dengue fever

LITERATURE RELATED TO DENGUE FEVER AND ITS INCIDENCE &PREVALENCE:

Ananda Amarasinghe. et. al., (2011) reported incidence of dengue has increased worldwide in recent decades, but little is known about its incidence in Africa. During 1960–2010, a total of 22 countries in Africa reported sporadic cases or outbreaks of dengue; 12 other countries in Africa reported dengue only in travelers. The presence of disease and high prevalence of antibody to dengue virus in limited serologic surveys suggest endemic dengue virus infection in all or many parts of Africa. Dengue is likely under recognized and under reported in

Africa because of low awareness by health care providers, other prevalent febrile illnesses, and lack of diagnostic testing and systematic surveillance.

Chandy.s.et.al., (2013) stated that Incidence of dengue is reported to be influenced by climatic factors. During the study period, 6892 dengue cases were reported from the state, by public health authorities. Dengue activity increased from 81 cases in 2000 to 1610 cases in 2003. More than half the total dengue cases (52%) seen from 2000 to 2008 were reported during 2001, 2003 and 2005. During the study years, 45% of the dengue burden was reported from Chennai and 10.6% from Trichi. The number of dengue cases was few during the pre-monsoon period and increase in cases coincided with the monsoon and post-monsoon months.

Chinnathambi Kalidoss.et.al.,(2011) conducted a prospective descriptive study was undertaken between January 2011 to December 2011, by testing suspected Dengue patients attending Thanjavur Medical College and Trichy Hospital The sera collected from suspected patients were analyzed for Dengue specific IgM and IgG antibodies by IgM antibody capture enzyme linked immune sorbent assay (ELISA) using NIV kit and IgGPanBio Duo Rapid Immuno chromatographic Card Test (Brisbane, Australia). The clinical case definition by World Health Organization was adopted to categorize the Dengue cases. The total number of samples screened during the period was 200, out of which 79 (39.5%) were positive for IgM and IgG antibodies and 65 (32%) for IgM antibodies only. By clinical evaluation, Dengue fever was diagnosed in 43 patients, 18 had hemorrhagic manifestations and four patients had progressed to DSS. Though (DSS + DHF) was present in 22 patients, all of them recovered well.

Gunasekaran.p.et. al.,(2012) conducted retrospective study , Of the 968 patients, 686 (43.0%) were positive, of which 579 (84.0%) were in the pediatric age group (<14 yr) and 107 (15.5%) were adults. The IgM positivity being 356 (36.7%) in males and 330 (52.8%) in females. Of the 686 positives, 113 (16.47%) were positive for both IgM and IgG denoting secondary infection. There was a noticeable increased occurrence during the cooler months and during the monsoon and post-monsoon months.

Jose L. et. al.,(2012) reported that Dengue outbreaks in the Americas reported the outbreak history from 1600 to 2010 was categorized into four phases: Introduction of dengue in the Americas (1600–1946); Continental plan for the eradication of the Ae. aegypti (1947–1970) marked by a successful eradication of the mosquito in 18 continental countries by 1962; Ae. aegypti reinfestation (1971–1999) caused by the failure of the mosquito eradication program; Increased dispersion of Ae. aegypti and dengue virus circulation (2000–2010) characterized by a marked increase in the number of outbreaks. During 2010 > 1.7 million dengue cases were reported, with 50,235 severe cases and 1,185 deaths.

Mohd .shafee.et.al.,(2012) conducted retrospective cross sectional study was performed to study the mortality audit of dengue death in CAIMS hospital .a total of 1369 patients were admitted with the dengue infection . The mortality rate was 2.56 %(35).There were 19 (54.28 %)females and 16(45.72 %) .The mean age of the patient was 38.09 yrs.Total 24 (68.57 %) belonged to rural area and 29 (82.85%) were illiterate .The mean duration of fever was 6.1 +_3 days.

Natasha Evelyn Anne Murray.et.al.,(2013) reported that the virus and its vectors have now become widely distributed throughout tropical and subtropical regions of the world, particularly over the last half-century. Significant

geographic expansion has been coupled with rapid increases in incident cases, epidemics, and hyper endemicity, leading to the more severe forms of dengue. Transmission of dengue is now present in every World Health Organization (WHO) region of the world and more than 125 countries are known to be dengue endemic. Estimates of the global incidence of dengue infections per year have ranged between 50 million and 200 million; however, recent estimates using cartographic approaches suggest this number is closer to almost 400 million.

Nivedita Gupta. (2012) stated that Approximately 2.5 billion people live in dengue-risk regions with about 100 million new cases each year worldwide. In India, the first epidemic of clinical dengue-like illness was recorded in Madras (now Chennai) in 1780 and the first virologically proved epidemic of dengue fever (DF) occurred in Calcutta (now Kolkata) and Eastern Coast of India in 1963-1964. During the last 50 years a large number of physicians have treated and described dengue disease in India, but the scientific studies addressing various problems of dengue disease have been carried out at limited number of centers.

N.Mary Hemeliamma.(2012) conducted a study regarding Anti-Dengue Antibody tests in microbiology department. In that study they have collected 12 patients blood samples for serological examinations. Out of 12 samples, they got all 12 positive cases of dengue fever.

Roland Elling. MD.(2011) stated that over the last 50 years, the incidence of dengue has increased 30-fold, with the highest rates occurring among infants.Moreover, infants are at increased risk of dengue shock. The limited ability of the hemodynamic system in young children to compensate for capillary leakage is believed to contribute to this phenomenon. Yet, the case-fatality rate is

generally lower among infants than among adults. Dengue virus infections are endemic in most parts of the tropics and subtropics.overall, the geographical expansion of the virus has been limited by the temperature sensitivity of its main vector Aedesaegypti. However, the second most important vector, Aedes albopictus has a higher temperature tolerance.

S. Mani. (2012) conducted a study regarding Bionomics and control of Aedes mosquito with special reference of Aegypti. In that study he found that Aedes mosquitos comes under phylum arthropoda, class insecta, diptera, family – culicidar, subfamily – culicinar, Genus-Aedes. There are 888 species of Aedes present in the world, out of which 111 are present in India. Aedes aegypti is a tropical and subtropical species of mosquito found around the globe.

S. Saini.et. al., (2012*)* reported that Dengue fever is rapidly emerging in India, even in non endemic areas. Dengue fever is more commonly seen in adults and older children. It was earlier confined to urban areas and now has penetrated into rural setup. To study the seropositivity of clinically suspected dengue fever case Blood samples from clinically suspected dengue fever cases were screened for NS1 dengue virus antigen and IgM and IgG dengue specific antibodies by rapid immune chromatographic test (ICT) Dengue Day 1 kit . Out of total 917 blood samples tested, 281(30.6%) were positive for one or more of three markers. Of 281 blood samples NS1 was positive in 198 cases while NS1 with either IgM or IgG was positive in 16 cases. Only IgG in 25cases and only IgM in 28 cases was observed. All the three parameters were positive in 3 cases.

REVIEWS RELATED TO DISEASE CONDITION OF DENGUE FEVER AND ITS MANAGEMENT:

C.Balakrishnan.et.al.,(2013) stated that the Indian subcontinent is enriched by a variety of flora- both medicinal and aromatic plant s. This extensive flora has been greatly utilized as a source of many drugs in the Indian traditional systems of medicine. This study aims at exploring the pharmacognosy,phytochemistry, physic-chemical and TLC analysis of a siddha polyherbal formulationNilavembu chooranam and Nilavembu tablet. The raw materials were authenticated by a pharmacognosist. The macroscopic characters and the powder microscopy of the chooranam revealed the presence of all those ingredients in the final product. The preliminary phytochemical analysis of nilavembu chooranam and nilavembu Tablet revealed the presence of Glyccoside,Tannins, alkaloids, Flavonoids, in Thin layer chromatographic analysis the solvent front was standardized as petroleum ether:chloroform:methanol:1:0:5:2 the methanol, chloroform and ether extracts were fractionized.

Deepak BSR. et. al.,(2013) reported that Dengue fever caused by dengue viruses (dengue 1–4) having Aedes aegypti mosquito as their principal vector, causes symptoms such as sudden onset of fever, headache, retro-orbital pain and back pain along with severe myalgia due to which dengue fever is also known as “break-bone fever.” Laboratory findings include leukopenia, thrombocytopenia and in many cases, serum aminotransferase elevations. dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS) may occur as a complication of dengue fever.A study and a randomized controlled trial showed that administration of papaya leaf juice was beneficial in dengue patients in elevating the total white cell

counts and platelet counts. Based on this report, a dengue patient with thrombocytopenia and leukopenia was treated in a tertiary Ayurveda hospital.

Nisar Ahemed.et. al., (2011) stated that the main objective of the current study is to investigate the potential of *Carica papaya* leaves extracts against Dengue fever in 45 year old patient bitten by carrier mosquitoes. Before the extract administration the blood samples from patient were analyzed. Platelets count (PLT), White Blood Cells (WBC) and Neutrophils (NEUT) decreased from 176×10^3/µL, 8.10×10^3/µL, 84.0% to 55×10^3/µL, 3.7×10^3/µL and 46.0%. Subsequently, the blood samples were rechecked after the administration of leaves extract. It was observed that the PLT count increased from 55×10^3/µL to 168×10^3/µL, WBC from 3.7×10^3/µL to 7.7×10^3/µL and NEUT from 46.0% to 78.3%. From the patient feelings and blood reports it showed that *Carica papaya* leaves aqueous extract exhibited potential activity against Dengue fever.

Many plants extracts including Spilanthes calva, Sterculia guttata, Balanites aegyptiaca, Vitex negundo, Solanum xanthocarpum, Artemisia annua, Fagonia indica, Nerium indicum, Trigonella foenum, in different solvents have been reported to exhibit activity against Aedes aegypti L., a vector of dengue fever.

Pavitra Sampath. et. al., (2013) found that that the papaya leaf juice was capable of fighting cancer, was non toxic to the body and had the capability to improve one's immunity. While the plant's leaf is well known for its curative properties in diseases like malaria and cancer, general physician in Sri Lanka, found that the juice of young leaves can be used to treat dengue.

Papaya leaves are known to be packed with the enzymes like chymopapin and papain that, according to Dr Sanath Hettige, normalise the platelet count, improves the clotting factor (helps the blood clot normally), improves one's liver function and repairs the damage to the liver done by dengue, therefore helping an ailing person recover from the disease.

Pei-Yun Shu.et.al.,(2012) stated that Current Advances in Dengue Diagnosis The rapid detection of the dengue virus genomic sequence by real-time one-step RT-PCR has become a trend. This assay has the advantages of simplicity, rapidity, and a low contamination rate compared to the characteristics of the nested RT-PCR method, which, however, has a sensitivity similar to that of the real-time RT-PCR. For acute-phase serum samples, the real-time one-step RT-PCR by either the TaqMan assay or SYBR Green method has been developed and successfully applied to the clinical diagnosis of dengue virus infections. Future developments based on a four-color multiplex protocol may revolutionize this field and eventually replace the conventional RT-PCR as the new gold standard for the rapid diagnosis of dengue virus infection.

Rachel Daniel.et.al., *(*2011) this study was conducted among 250 IgM dengue antibody-confirmed cases admitted to three major hospitals in Kollam city. The presenting symptoms were: fever (96.8%), headache (77.2%), abdominal pain (62.4%), diarrhoea (15.2%), bleeding (15.2%), skin rash (13.2%), pruritus (10.4%), sore throat (5.2%), and seizures (0.8%). The major physical findings noted included positive tourniquet test (33.67%),hepatomegaly (17.6%), bradycardia (16.8%), pleural effusion (13.2%) and ascites (12%). The most frequent abnormal laboratory findings included haemoconcentration (27.8%) and severe thrombocytopenia(<10 000 in 8.5%). Eight out of 250 patients died (case-fatality rate (CFR) = 3.2%). In all the 8 cases of death, disseminated intravascular coagulation (DIC) was the cause of death. DIC was associated with thrombocytopenia (platelet count-50 000/cmm) and haemoconcentration (7 out of 8 cases).

Pei-Yun Shu.et.al (2012) stated that Current Advances in Dengue Diagnosis The rapid detection of the dengue virus genomic sequence by real-time one-step RT-PCR has become a trend. This assay has the advantages of

simplicity, rapidity, and a low contamination rate compared to the characteristics of the nested RT-PCR method, which, however, has a sensitivity similar to that of the real-time RT-PCR. For acute-phase serum samples, the real-time one-step RT-PCR by either the TaqMan assay or SYBR Green method has been developed and successfully applied to the clinical diagnosis of dengue virus infections. Future developments based on a four-color multiplex protocol may revolutionize this field and eventually replace the conventional RT-PCR as the new gold standard for the rapid diagnosis of dengue virus infection.

sunit singhil. et.al. (2012) stated that DHF is a more serious clinical entity. It emerged among children in Southeast Asia during the 1950s and has since become a major public health problem worldwide and a significant cause of pediatric morbidity and mortality. The affected children need very careful monitoring. The fluid therapy is challenging and needs modification frequently. Respiratory distress due to extensive pleural effusions, myocardial dysfunction, extensive bleeding and multiple organ failure, including acute respiratory distress syndrome, acute liver failure, and acute renal failure are other potentially life-threatening complications that may need attention in the pediatric intensive care unit (PICU).

REVIEWS RELATED TO KNOWLEDGE &PRACTICE REGARDING DENGUE FEVER:

Amar Taksande.et .al (2012) reported that 43.91 % respondents belonged to the age group of 30 – 44 years, 84.15 % respondents were married and 31.21 % respondents were high school certificate (31.21 %). 76.58 % respondent knew that the vector for dengue is a mosquito. Whereas 47.8 % respondents knew that human to human spread occurs in dengue and mainly transmitted by mosquito bites. Around 60.48 % of them were aware of fever as

the presenting symptom. With regards to the knowledge of the preventive measures, respondents were generally aware of mosquito coils/liquid (57.08 %) and spraying (35.12 %). 74.14 % respondents knew about breeding places of mosquitoes. 94.64 % respondents strongly agreed and agreed that dengue is a serious illness. Only 17.06 % respondents strongly agreed and agreed that they are at risk of getting dengue whereas 62.92 % was not sure about the risk. Common preventive practices that were prevalent in the respondents were use of mosquito coils/liquid (45.12 %); cleaning the house (28.30 %) and mosquito spray (23.42 %). Important sources of information about DF were from television (59.75 %) followed by Friends/relatives (47.80 %).

Manprect kavur. (2011) conducted a study to assess the knowledge of nursing students regarding dengue fever in a selected school and college of Nursing. The findings revealed a significant difference between pre and post knowledge scores of the students. They concluded that the STP was effective in improving the student's knowledge. This knowledge can help them to identify the dengue cases and also create awareness in the community area.

Nalongsack S,et. Al., (2011) reported that they had a fair knowledge about the vector 163 (70.9%). For 101 (43.9%) respondents, their main source of information about dengue was their friends or relatives. It is encouraging that 217 (94.3%) respondents had a positive attitude that DF can be treated, and that 222 (96.5%) knew they should visit a doctor when they suffer from it. About 196 (85.2%) people stored water at home but infrequently changed it. The study indicated that the community was quite familiar with Dengue, but that there was some confusion about vaccination and water storage for domestic use. Dengue awareness activity should be included at the school and college level. Radio and television should play an important role in conveying health information to the public, and regular visits of health personnel to the villagers should be ensured.

Nahla Khamis Ragab Ibrahim. et.al (2011). A cross sectional approach was conducted to assess knowledge, attitudes and practice (KAP) of high school female students, teachers and supervisors towards Dengue fever (DF),and to determine scoring predictors of high school students' knowledge and practice scores. A multistage, stratified, random sample method was applied. A total of 2693 students, 356 teachers and 115 supervisors completed confidential self-administered questionnaires. Students obtained the lowest mean knowledge score compared to the other two groups ($F = 51.5$, $P < 0.001$).

Sazaly AbuBakar. et. al.,(2013), who conducted qualitative study, Young adults and elderly participants had a low perception of susceptibility to DF. In general, the low perceived susceptibility emerged as two themes, namely a perceived natural ability to withstand infection and a low risk of being in contact with the dengue virus vector, Aedes spp. mosquitoes. The barriers to sustained self-prevention against dengue prevention that emerged in focus groups were: i) lack of self-efficacy, ii) lack of perceived benefit, iii) low perceived susceptibility iv) unsure perceived susceptibility. Low perceived benefit of continued dengue prevention practices was a result of lack of concerted action against dengue in their neighborhood. Traditional medical practices and home remedies were widely perceived and experienced as efficacious in treating DF.

He concluded that, knowledge about dengue fever and its vector is generally inadequate with only 35.5% of the sample, and remaining samples had adequate knowledge about dengue fever and its vector. The knowledge scores had significant association with education (p=0.004) and socio economic status (p=0.002) of the individuals.

CONCEPTUAL FRAME WORK

The conceptual frame work used for this study is based on the modified version of J.W. KENNYS open systems model (1999). It offers a perspective for looking at man and nature. They interact as a whole with integrated sets of properties and relationship. All living systems are open to the exchange of matter & information. It does this providing a frame work to develop goals for desired outcomes. Acceptance by the nursing community for research by applying this model is in the beginning stages and positive. This system model is a person approach to nursing that provides a multidimensional view of the person as an individual. The person is viewed as an open, dynamic system in constant interaction with the environment.

INPUT

A system imports product in a process known as input. The input is assessing knowledge &practice regarding dengue fever among mothers of school going children by using semi structured questionnaires on various aspects as defining the dengue fever, clinical manifestations, diagnosis, treatment and prevention.

THROUGHPUT

A system transforms, creates & organizes the process known as throughput which results in teaching programme regarding dengue fever & its prevention and control. This model assists the persons, families, and groups to attain and maintain a maximum level of wellness.

OUTPUT

A system exports products in a process known as output. The output is awareness among the mothers of school going children regarding complications of dengue fever, benefits of preventive measures & their acceptance in relation to the readiness to carry out the preventive measures of dengue fever in implementation of primary, secondary and tertiary interventions to improve the health status of the community.

FEED BACK

Feedback emphasized to strengthen the input & throughput. In this study feedback is needed for inadequate knowledge aspects & poor practice related to reduction of breeding sources.

CHAPTER –III

RESEARCH METHODOLOGY

This chapter deals with research design, the setting, sample and sampling technique. It also deals with tools and technique, procedure for data collection. The research approach used for this study was evaluative approach.

RESEARCH APPROACH:

Evaluative research approach was used in this study.

RESEARCH DESIGN:

A Quasi Experimental research design, non equivalent control group design (pretest-post test control group design) was chosen for this study.

NR	E 01	X	02
NR	C 01		02

NR-No Randomization

E 01- pretest assessment of knowledge and practice of experimental group of sample.

02-post test assessment of knowledge and practice of experimental and control group of sample.

C 01- pretest assessment of knowledge and practice of control group of sample

X-Administration of computer assisted instruction

RESEARCH VARIABLES:

a. Independent Variable: Computer assisted instruction on dengue fever.

b. Dependent variable : Knowledge & practice of the mothers of school going children.

SETTINGS:

Study was conducted at Vallampudhur & Thirukanurpatty,Thanjavur (DT), Thirukanurpatti is located at a distance of about 10 kms away from the Our Lady Of Health College Of Nursing Thanjavur and Vallampudhur is located 30 km away from the college.

POPULATION:

The populations of this study were the mothers residing at Thirukanurpatti & vallampudhur.

The total numbers of mothers at Thirukanurpatty were 150.

The total numbers of mothers at Vallampudhur were 200.

SAMPLE:

The mothers whose children were studying in schools & aged between 6-12 yrs.

SAMPLE SIZE:

It consisted of 60 mothers of school going children at selected villages which comprised of 30 samples in experimental &control group each.

SAMPLING TECHNIQUE:

Non probability convenient sampling technique was used for this study.

CRITERIA FOR DATA COLLECTION:

The samples were selected based on the following criteria

INCLUSION CRITERIA:

- Mothers of school going children who were willing to participate in this study.
- Mothers of school going children who could understand &speak Tamil.
- Mothers of school going children whose age between 6-12 yrs.

EXCLUSION CRITERIA

- Mothers of school going children whose age was below 6 & above 12 yrs.
- Mothers who were suffering from hearing loss &mentally illness.
- Mothers who could not read Tamil.

DATA COLLECTION TOOL:

Semi Structured questionnaire consisted of three parts based on the objectives, as it is described below.

Part - 1 :- Consisted of semi structured demographic variables such as age of the mother, age of children, education of the mother ,occupation of the mother, type of family , income of family , number of children, type of house ,previous exposure to dengue fever among family members, previous source of information .

Part - 2:- Consisted of a semi structured knowledge questionnaire to assess the knowledge regarding dengue fever.

Part - 3:- Consisted of an observational check list to assess the practice regarding dengue fever.

REPORT OF PILOT STUDY:

In order to list the feasibility and practicability, pilot study was conducted for a period of one week in neithal nagar (experimental group) and natchathiram nagar (control group). The purpose of study was explained to study participants. Among 10 mothers of school going children were selected, 5 were control group and 5 were experimental group and conducted the pretest regarding knowledge and practice on dengue fever with semi structured questionnaire and observational checklist respectively. After pretest the computer assisted instruction was administered and post test was conducted on 7^{th} day by the same questionnaires. These 10 mothers were not included in the main study .The data was collected and tabulated &analyzed using descriptive and inferential statistics. The data were enumerable to statistical analysis and then the study was found to be feasible.

RELIABILITY &VALIDITY OF THE TOOL:

For content validity, the research tool was validated by 5 experts who were requested to give their valuable suggestion about the content areas, relevance clarity and appropriate need of the items. Items were modified based on the suggestion of the experts. Reliability of the tool was checked by using descriptive and inferential statitics.The statistical analysis revealed the significant results .so the main study was preceded.

METHOD OF DATA COLLECTION:

Permission was obtained from the authorities of the OLH CON. The study subjects were collected by using family folders. The informed oral consent was

obtained from the study subjects and written consent from President of village. The investigator conducted the pre test by semi structured questionnaire &check list .After the pretest, the computer assisted instruction on dengue fever was given to the subjects. After 15 days of the pre test, the post test was conducted to the subjects to assess the knowledge &practice by administering same questionnaire & check list, and then the collected data were compiled for data analysis.

SCORING & INTERPRETATION PROCEDURE:

Part –I :

The total score of multiple choice items on knowledge regarding dengue fever was 25. Each item was given one mark for correct answer and zero mark for wrong answer.

The result –score was ranged as follows

Level of knowledge	score
Adequate	76-100 %
Moderately adequate	51-75%
In adequate	0-50%

Part-II:

Regarding the questionnaire on practice, it consisted of 10 items and each statement was scored based on response of subject such as always used, the score is 2, sometimes used, the score is 1, never used, the score is 0.

The score range was as follows

Level of practice	score
Good practice	76-100%
Average practice	51-75%
Poor practice	0-50%

PLAN FOR DATA ANALYSIS:

Percentage, mean, chi-square and standard deviation were used to know the association between demographic variables and the post test scores.

Correlation was used to determine the relationship between knowledge and practice.

Dependent and independent ’ t’ test was used to compare the pretest scores and the post test scores.

PROTECTION OF HUMAN SUBJECTS:

The research proposal was approved by the dissertation committee prior to the pilot study. Permission was obtained from the co–ordinator, the principal of Our Lady of Health College of Nursing and the president of the village to conduct the study. Oral consent was obtained from each subject before starting the data collection. Confidentiality and anonymity was maintained throughout the study.

CHAPTER- IV

DATA ANALYSIS

The chapter deals with analysis and interpretation of data collected from the selected samples of 30 mothers of experimental group, 30 mothers of control group to study the effectiveness of computer assisted instruction on dengue fever among mothers of school going children at selected villages, Thanjavur district. Data analysis includes both descriptive and inferential statistics. The data was collected and scoring was done, the demographic variables were coded and analyzed. The data has been tabulated and analyzed according to the objectives and interpreted in the following section.

ORGANIZATION OF DATA

SECTION 1: Analysis of demographic variables and information related to dengue fever among mothers of school going children in experimental and control group.

SECTION 2: Assessment and comparison of pretest level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

SECTION 3: Assessment and comparison of post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

SECTION 4: Comparison of pretest and post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

SECTION 5: correlation between pre & post test score of knowledge &practice in experimental &control group.

SECTION 6: Association between pretest level of knowledge and practice of dengue fever with their selected demographic variables among experimental and control group.

PRESENTATION OF DATA

SECTION 1:

Analysis of demographic variables and information related to dengue fever among mothers of school going children in experimental and control group.

Table –4.1 Frequencies and percentage, distribution of demographic variables related to dengue fever among mothers of school going children in experimental and control group.

N=60(30+30)

Demographic Variables	Experimental Group Frequency	Percentage (%)	Control Group Frequency	Percentage (%)
Age Of The Mother:				
A. 20-25 yrs	6	2**0**	13	43.3
B. 25-30 yrs	10	33.3	8	26.7
C. 30-35 yrs	14	46.7	9	30
Age Of Children:				
A. 6-8 yrs	9	30	18	60
B. 9-11 yrs	13	43.3	5	16.7
C. 12-15 yrs	8	26.7	7	23.3
Education :				
A. primary education	16	53.3	11	36.7
B. HSE	8	26.7	12	40
C. Graduate	6	20	7	23.3
Occupation :				
A. Coolie	17	56.7	11	36.6
B. Govt Employee	5	16.7	2	6.7
C. Business	0	0	2	6.7
D. Private Employee	1	3.3	4	13.3
E. House wife	7	23.3	11	36.6
Type Of Family:				
A. Joint Family	20	66.7	17	56.7
B. Nuclear family	10	33.3	13	43.3
Income Of Family				
A. Rs <3000	12	40	8	26.7
B. Rs 3000 -5000	11	36.7	14	46.7
C. Rs5000-10000	3	10	5	16.6
D. Rs >10,000	4	13.3	3	10
Type Of House:				
A. Terraced House	10	33.3	9	30
B. Tiled House	16	53.3	14	46.7
C. Hut House	4	13.4	7	23.3
Previous Exposure				
A. Yes	5	16.7	1	3.3
B. No	25	83.3	29	96.7
Source Of Information:				
A. Health Personnel	20	66.7	13	43.3
B. Media	9	30	15	50
C. Neighbors	1	3.3	2	6.7

The table 1, an above represents the frequency and percentage distribution of demographic variables among mothers of school going children in experimental and control group.

This table revealed that regarding age of mothers , a highest frequency of 14 (46.75%) of mothers of school going children in age between 30-35 yrs, 10(33.3%) between 25-30 yrs of age,6(20%)of age were 20-25 yrs in experimental group. where as in control group , highest frequency of 13 (43.3%) were between 20-25 yrs of age,9(30%) were the age group of mother was 30-35 yrs , 8(26.7%) were the age between 25-30yrs .

Considering age of child, maximum of 13 (43.3%) were belongs to 9-11yrs of age, 9(30%) were between 6-8 yrs, and minimum of 8(26.7%) were between 12-15 yrs of age in experimental group. Where as in control group, 18 (60%) were between the 6-8 yrs of age, 7(23.3%) were between the age is 12-15 yrs, 5(26.7%) were between the age of 9-11 yrs.

In relation to education of mother, maximum of 16 (53.3%) were belong to primary education, 8(26.7 %) were belongs to higher secondary education, 6(20%) belongs to graduate education in experimental group. where as in control group highest frequency of 12(40%) were belongs to higher secondary education, 11 (36.7%) were primary education, 7(23.3%) were from graduate education in the control group.

Regarding occupation , the highest frequency of 17(56.7%) were from coolie , 7(23.3%)from house wife ,5(16.7%) were from government employee and least frequency 1(3.3%) is from private employee, and none of them from business in experimental group. where as in control group , maximum frequency from collie & house wife 11(36.6%) , 4(13..3%) belongs to private employee and

least frequency of 2(6.7 %) were government employee & business in control group.

In relation to type of family the highest frequency of 20(66.7%) belongs to joint family and 10(33.3%) were from nuclear family in the experimental group. Where as in control group maximum frequency of 17(56.7%) were from joint family, 13(43.3%) were from nuclear family in the control group.

Regarding income of family, the highest frequency of mothers of school going children of 12 (40%) were from Rs <3000, 11(36.7%) were income between Rs 3000-5000,4(13.3%) were income Rs >10000 and least frequency 3(10 %) between Rs 5000-10000 in the experimental group. Where as in control group the maximum frequency of 14 (46.7%) were between the income of Rs 3000-5000, 8(26.7%) were fro Rs <3000, 5(16.6%) were between Rs 5000-10000 and least frequency of 3(10%) is from Rs >10000in the control group.

In relation to type of house, the highest frequency of 16(53.3%) were living in tiled house, 10(33.3%) were living in terraced house, 4(13.4 %) were living in hut house in experimental group. Where as in control group, the highest frequency of 14(46.7%) were from tiled house and moderate frequency of 9(30%) were living in terraced house, 7(23.3%) were living in hut house in the control group.

Considering the previous exposure to dengue fever among family members, the highest frequency of 25(83.3%) said no, 5(16.7%) said yes in experimental group. Where as in control group, the highest frequency of 29(96.7%) said no, the least frequency of 1(3.3%) said yes in the control group.

Considering the previous source of information, the highest frequency of 20(66.7%) got information from health personnel, 9(30%) were got information from media, 1(3.3%) got from neighbors in the experimental group. Where as in

control group, the maximum frequency of 15(50%) got information from media, 13(43.3%) got from health personnel and least frequency of 2(6.7%) were from neighbors in the control group.

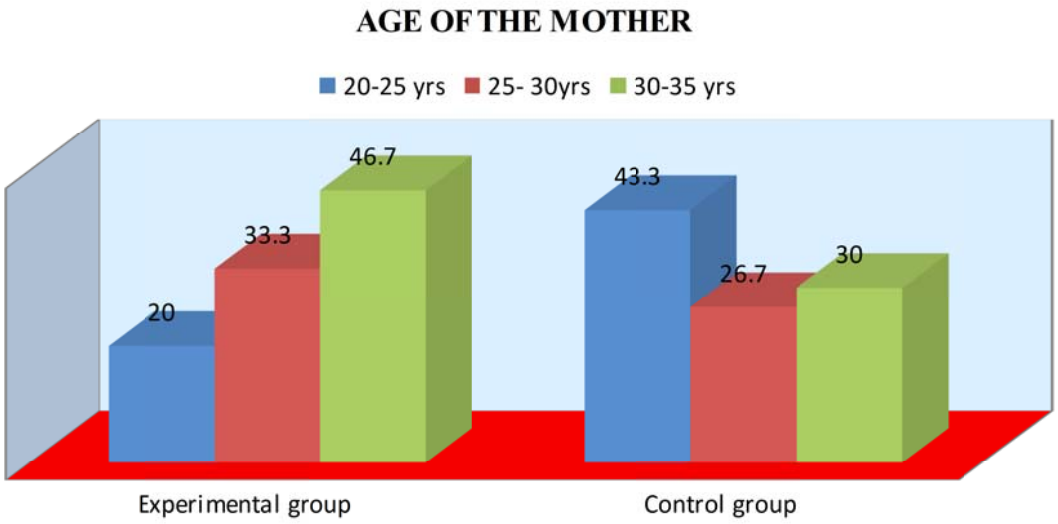
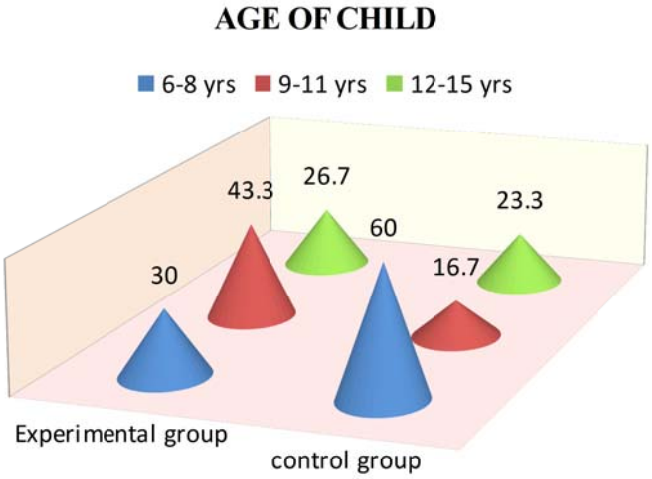


FIGURE 4.1: PERCENTAGE DISTRIBUTION OF AGE OF MOTHER IN EXPERIMENTAL AND CONTROL GROUP.

FIGURE 4.2: PERCENTAGE DISTRIBUTION OF AGE OF CHILD IN EXPERIMENTAL AND CONTROL GROUP.



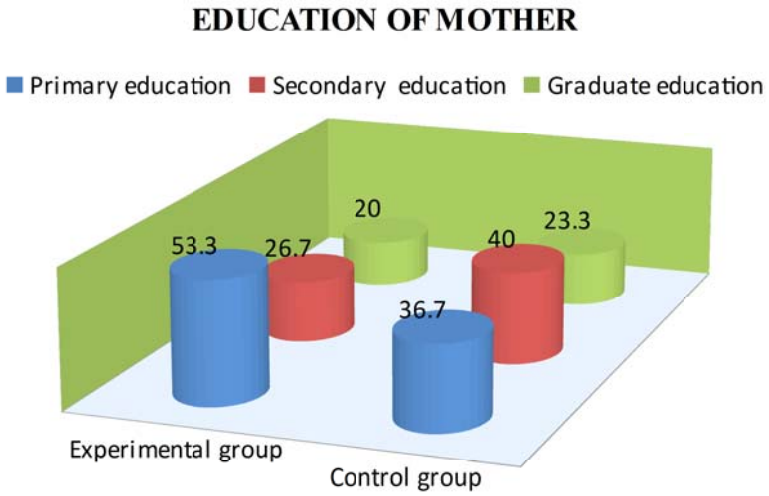


FIGURE 4.3: PERCENTAGE DISTRIBUTION OF EDUCATION OF MOTHER IN EXPERIMENTAL AND CONTROL GROUP.

FIGURE 4.4: PERCENTAGE DISTRIBUTION OF OCCUPATION OF FAMILY IN EXPERIMENTAL AND CONTROL GROUP

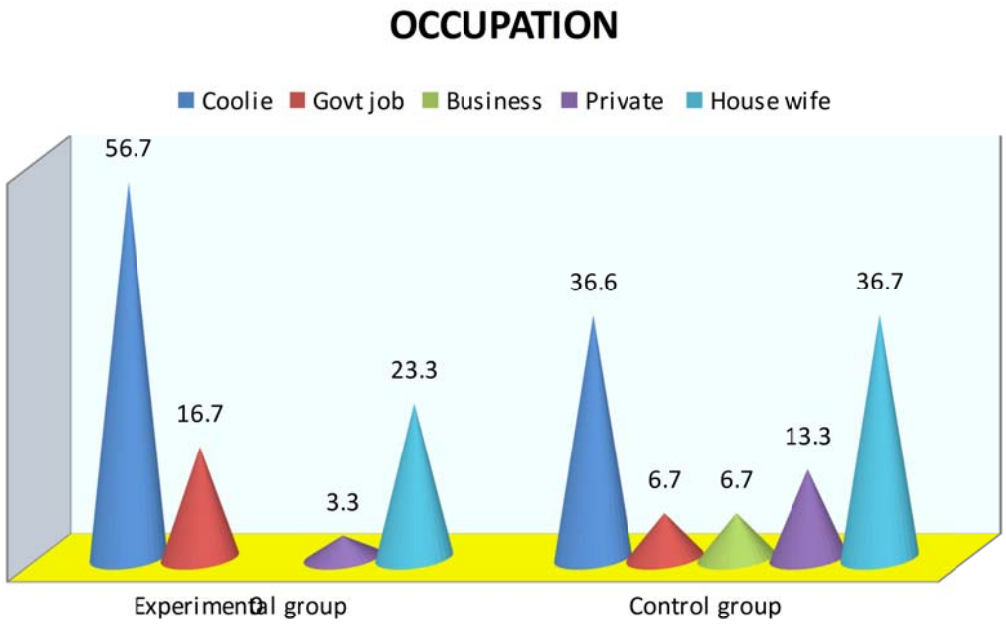


FIGURE4.5: PERCENTAGE DISTRIBUTION OF TYPE OF FAMILY IN EXPERIMENTAL AND CONTROL GROUP.

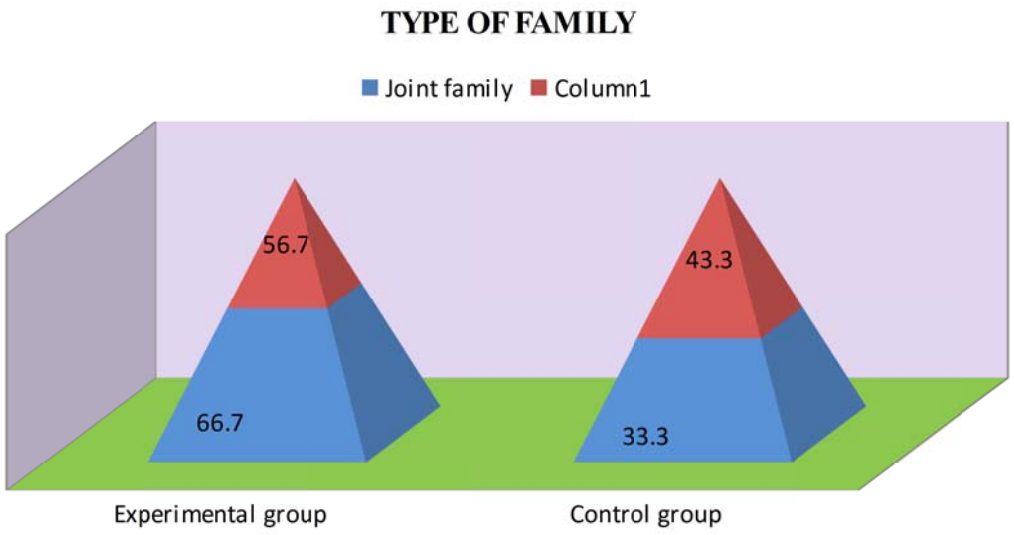


FIGURE 4.6: PERCENTAGE DISTRIBUTION OF INCOME OF FAMILY IN EXPERIMENTAL AND CONTROL GROUP.

INCOME OF FAMILY

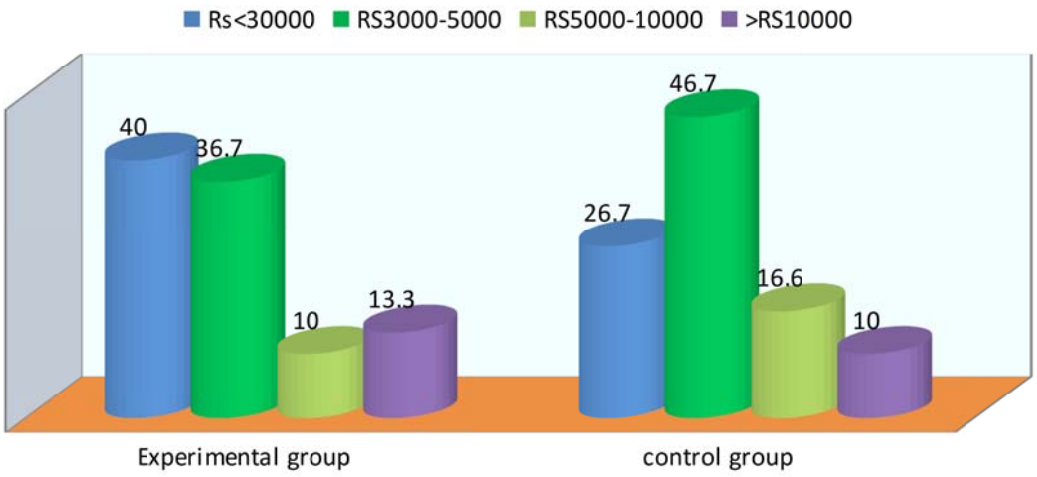


FIGURE 4.7: PERCENTAGE DISTRIBUTION OF TYPE OF HOUSE IN EXPERIMENTAL AND CONTROL GROUP.

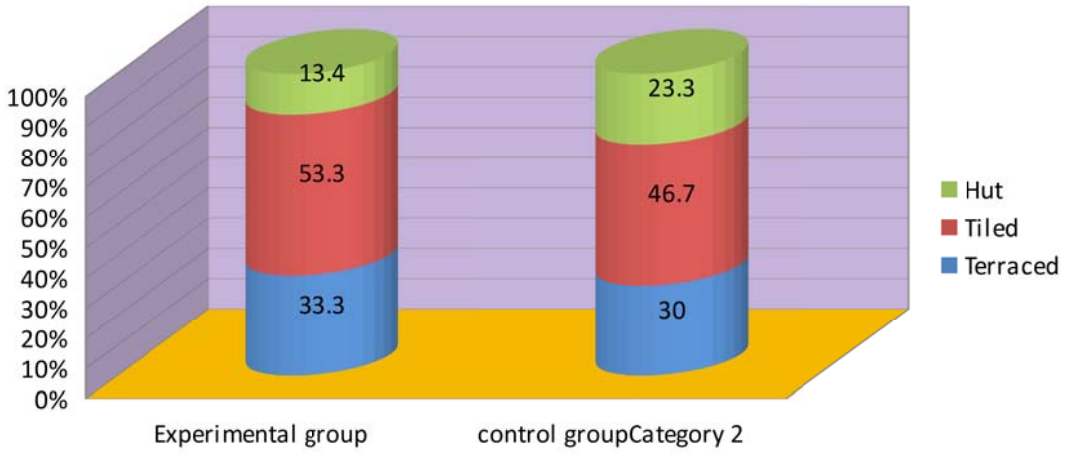


FIGURE 4.8: PERCENTAGE DISTRIBUTION OF PREVIOUS EXPOSURE TO DENGUE FEVER AMONG FAMILY

MEMBERS IN EXPERIMENTAL AND CONTROL GROUP

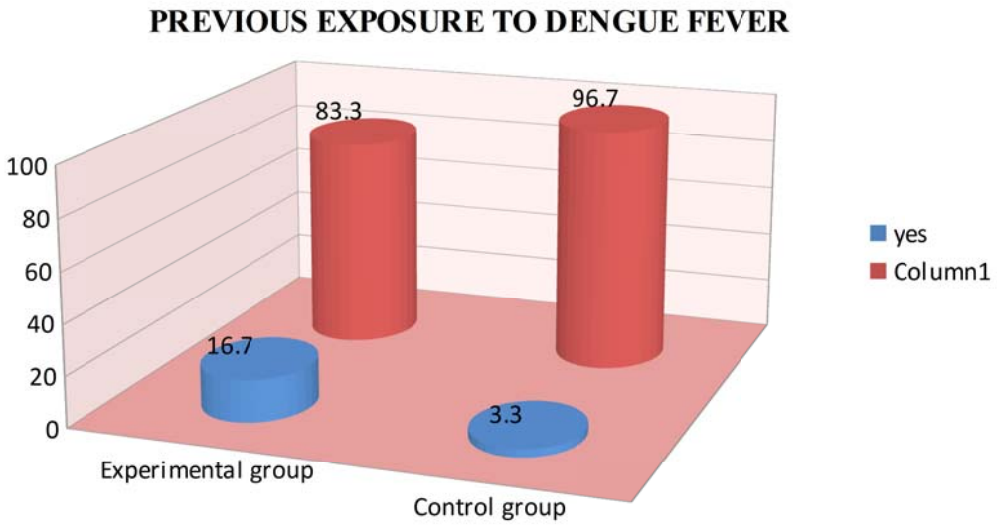
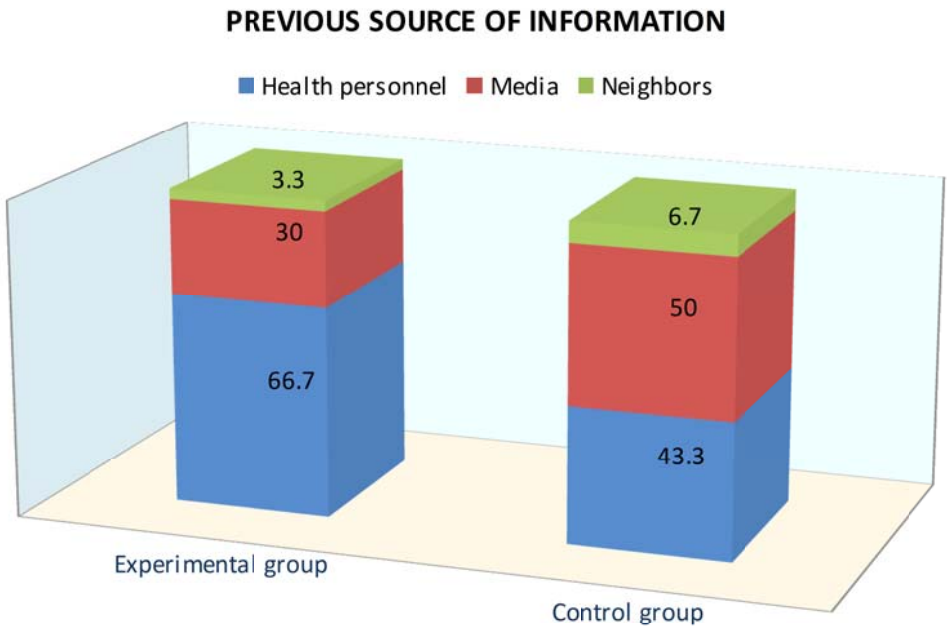


FIGURE 4.9: PERCENTAGE DISTRIBUTION OF PREVIOUS SOURCE OF INFORMATION IN EXPERIMENTAL AND CONTROL GROUP.



SECTION 2:

Assessment and comparison of pretest level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

Table- 4.2: Frequency and percentage distribution of pretest level of knowledge &practice of dengue fever among mothers of school going children in experimental and control group.

N=60(30+30)

Level of Knowledge &Practice	Experimental Group Pretest		Control Group Pretest	
	Frequency	Percentage	Frequency	Percentage
Inadequate	26	86.7	5	16.7
Moderate Adequate	4	13.3	25	83.3
Adequate	0	0	0	0

Table -4.2: Represents frequency and percentage distribution of pretest level of knowledge &practice of dengue fever among mothers of school going children in experimental and control group.

The assessment of pretest level of knowledge & practice revealed that 26(86.7%) had inadequate knowledge & practice, 4(13.3%) had moderate adequate knowledge &practice, none of them had adequate knowledge & practice in the experimental group. Where as in control group 25(83.3%) have inadequate knowledge & practice, 5(16.7%) had moderate adequate knowledge &practice, none of them had adequate knowledge &practice in control group.

FIGURE: 4.10 PRE TEST LEVELS OF KNOWLEDGE &PRACTICE OF DENGUE FEVER AMONG MOTHERS OF SCHOOL GOING CHILDREN IN EXPERIMENTAL &CONTROL GROUP.

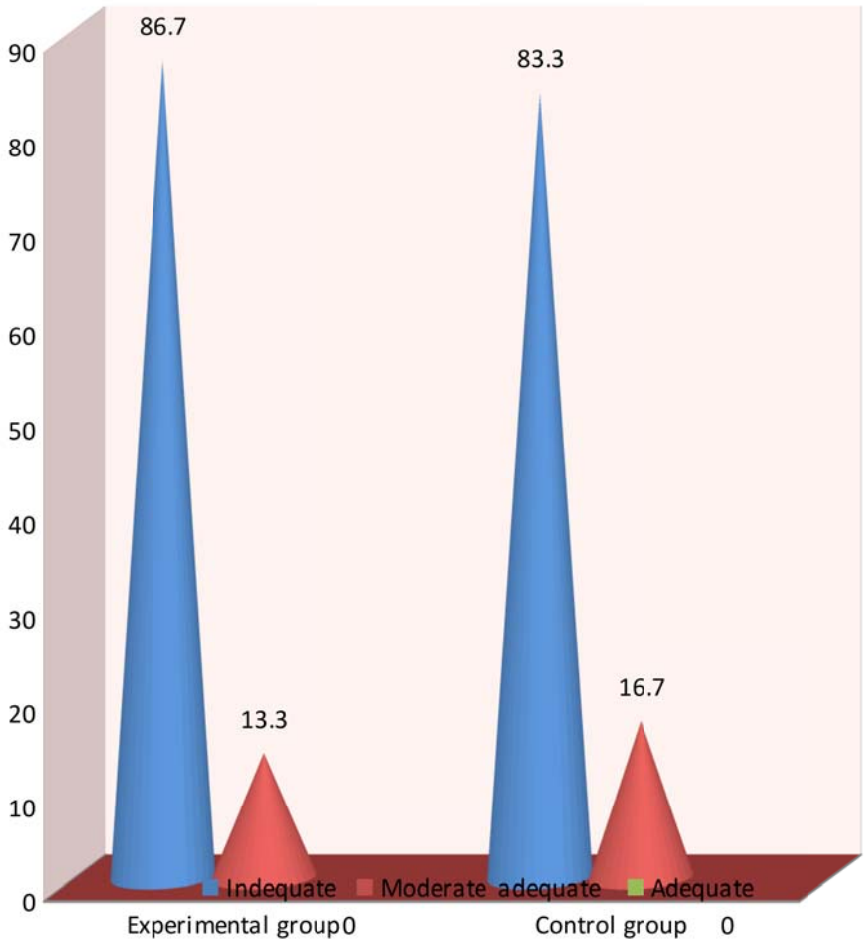

86.7
83.3
90
80
70
60
50
40
30
20
10
0
13.3
16.7
Indequate
Moderate adequate
Adequate
Experimental group0
Control group 0

Table4.3: Comparison of pretest level of knowledge & practice in experimental & control group.

N=60(30+30)

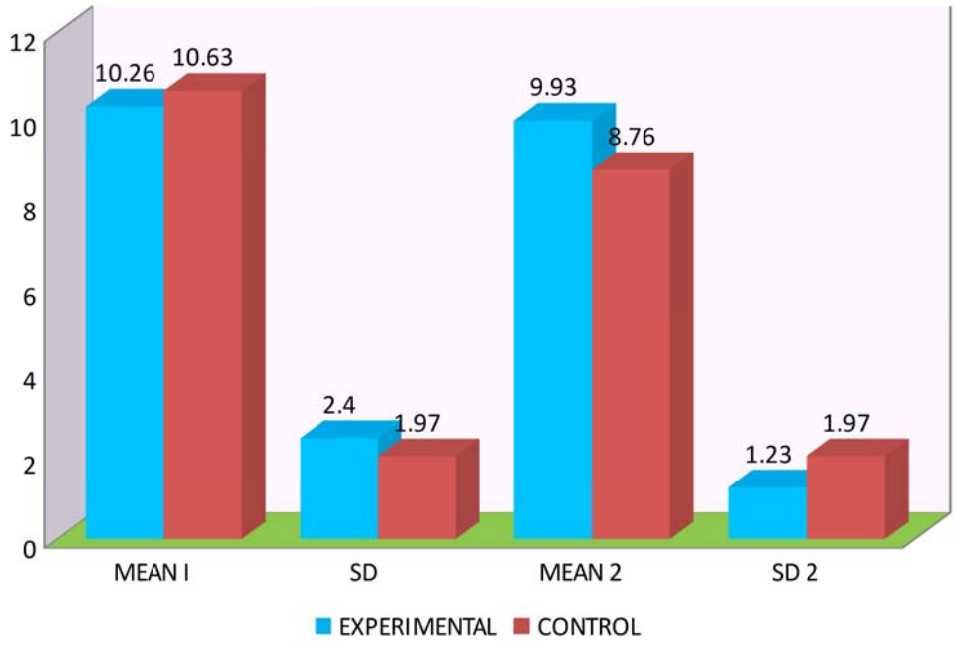
Group	Mean		Standard Deviation		Unpaired " T" Test	
	Knowledge	Practice	Knowledge	Practice	Knowledge	Practice
Experimental Group	10.26	9.93	2.35	1.23	0.71 NS	2.73 S
Control Group	10.63	8.76	1.97	1.97		

Table -4.3 represents comparison pretest level of knowledge &practice in experimental & control group.

The analysis reveals that the mean value of knowledge was 10.26with standard deviation was 2.35 in experimental group and mean value of practice was 9.93 with standard deviation was 1.23 in experimental group, where as in

control group mean value of knowledge was 10.63 and its standard deviation was 1.97, mean value of practice was 8.76 &its standard deviation was 1.97 in control group. The‘t’ value of knowledge was 0.71 which was not significant statistically, Where as in ‘t’ value of practice was 2.73, which was statistically significant in both group.

FIGURE 4.11: COMPARISON PRETEST LEVEL OF KNOWLEDGE & PRACTICE IN EXPERIMENTAL & CONTROL GROUP.



SECTION 3:

Assessment and comparison of post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

Table 4.4: Frequency and percentage distribution of post test level of knowledge &practice of dengue fever among mothers of school going children in experimental and control group.

N=60(30+30)

Level of knowledge & practice	Experimental group Post test		Control group Post test	
	Frequency	Percentage	Frequency	Percentage
Inadequate	0	0	23	76.7
Moderate Adequate	7	23.3	7	23.3
Adequate	23	76.7	0	0

Table -4.4: Represents frequency and percentage distribution of post test level of knowledge & practice of dengue fever among mothers of school going children in experimental and control group.

The assessment of post test level of knowledge & practice revealed that 23(76.7%) had adequate knowledge&practice, 7(23.3%) had moderate adequate knowledge & practice, none of them had inadequate knowledge & practice in the experimental group. Where as in control group 23(76.7%) had inadequate knowledge & practice, 7(23.3. %) had moderate adequate knowledge & practice, none of them had adequate knowledge & practice in control group.

FIGURE: 4.12 POST TEST LEVEL OF KNOWLEDGE &PRACTICE OF DENGUE FEVER AMONG MOTHERS OF SCHOOL GOING CHILDREN IN EXPERIMENTAL & CONTROL GROUP.

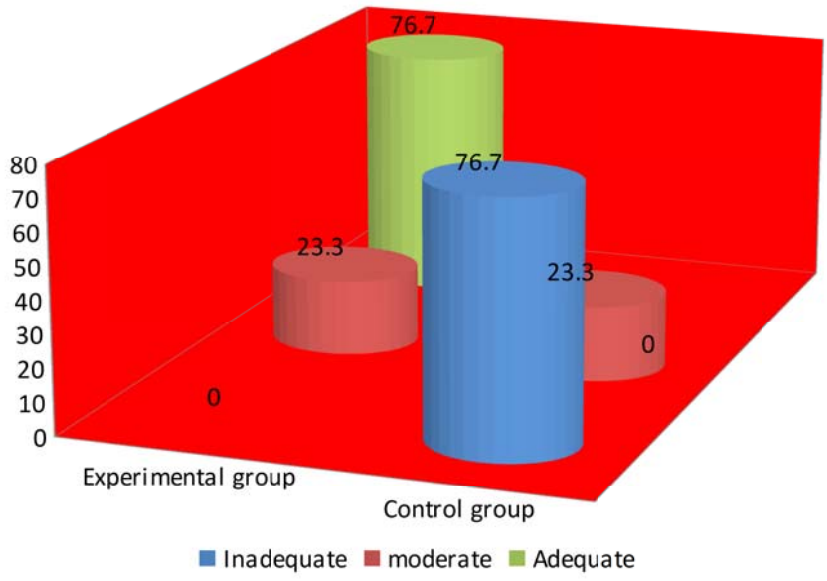


Table- 4.5: comparison of post test level of knowledge &practice in experimental &control group.

N=60(30+30)

Group	Mean		Standard Deviation		Unpaired ‘ t’ Test	
	Knowledge	Practice	Knowledge	Practice	Knowledge	Practice

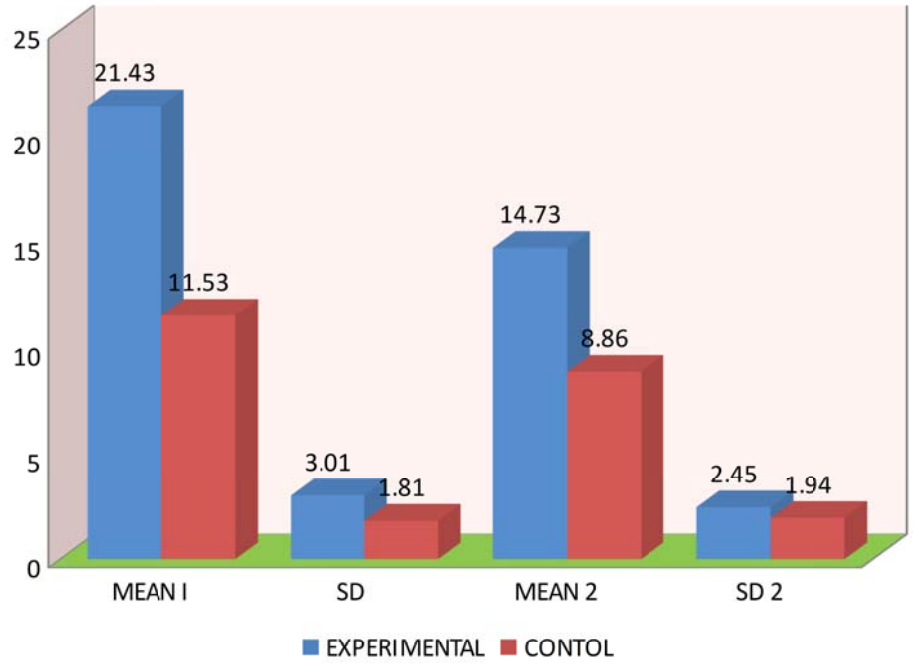
Experimental group	21.43	14.73	3.01	2.45	15.30 S	10.22 S
Control group	11.53	8.86	1.8	1.94		

H_0 -There is no significant difference between the post test level of knowledge &practice in experimental &control group.

Table -4.5 represents comparison post test level of knowledge & practice in experimental and control group.

The analysis revealed that the mean value of knowledge was 21.43 and its standard deviation was 3.0199 in experimental group and mean value of practice was 14.73 and its standard deviation was 2.45 in experimental group. Where as in control group mean value of knowledge was 11.53 and its standard deviation was 1.8, mean value of practice was 8.86 & its standard deviation was 1.94 in control group. The‘t’ value of knowledge was 15.30 which shown statistically significant in both groups. Where as in ‘t’value of practice was 10.22, which shown statistically significant in both group.

FIGURE: 4.13 COMPARISON OF POST TEST LEVEL OF KNOWLEDGE & PRACTICE AMONG EXPERIMENTAL &CONTROL GROUP.


25
20
15
10
5
0
21.43
11.53
3.01
1.81
14.73
8.86
2.45
1.94
MEAN I
SD
MEAN 2
SD 2
EXPERIMENTAL
CONTOL

SECTION 4:

Comparison of pre test and post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

Table -4.6 Comparison of pretest and post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

N=60(30+30)

Group	Pretest Knowledge		Pretest Practice		Post test Knowledge		Post test Practice		paired 't'test	
	Mean	SD	mean	SD	Mean	SD	Mean	SD	K	P
Experimental Group	10.26	2.35	9.93	1.2	21.3	3.1	14.73	2.4	20.4 S	10.4 S
Control Group	10.63	1.97	8.76	1.9	11.5	1.8	8.86	1.9	3.46 S	0.39 NS

H_0- There is no significant difference between pretest and post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

Table -4.6 represents comparison of pre & post test level of knowledge and practice of dengue fever among mothers of school going children in experimental and control group.

The analysis revealed that the mean value of pretest level of knowledge was 10.26& its standard deviation was 2.35, the mean value of pre test level of practice was 9.93 & its SD was 1.23. The mean value of post test level of knowledge was 21.4 & its standard deviation was 3.1, the mean value of post test

level of practice was 14.73 &its SD was 2.45 in experimental group and the paired ‘t’value of knowledge was 20.45 and for practice 10.4, which shows statistically significant. Where as in control group the mean value of pretest level of knowledge was 10.63& its standard deviation was 1.97, the mean value of pre test level of practice was 8.76 & its SD was 1.97. The mean value of post test level of knowledge was 11.53 & its standard deviation was 1.8, the mean value of post test level of practice was 8.86& its SD was 1.94 in control group and the paired‘t’ value of knowledge was 3.4691and for practice 0.39, which shows statistically significant in knowledge but not significant in practice.

SECTION 5:

Correlation between post test score of knowledge & practice in experimental and control group.

Table -4.7 Correlations between post test scores of knowledge & practice in experimental and control group.

N=60(30+30)

Group	**Item**	**Correlation Coefficient**
Experimental	Post test knowledge & practice score	r= 0.73
Control	post test knowledge & practice score	r=0.24

The above table shows that there was a positive and significant correlation (0.73) between the post test level of knowledge and practice among experimental group, where as in control group there was a positive but moderate significant correlation (0.24) between the post test level of knowledge and practice.

SECTION 6: Association between pre test level of knowledge and practice of dengue fever with their selected demographic variables in experimental and control group.

Table -4.8 associations between pretest levels of knowledge of dengue fever with their selected demographic variables in experimental group.

Demographic variables	**Inadequat**	**Moderat**	**Adequat**	**X^2**

	e	e adequate	e	
Age Of The Mother:				11.5294 S
A. 20-25 yrs	5	1	0	
B. 25-30 yrs	10	0	0	
C. 30-35 yrs	11	3	0	
Age Of Children:				10.9221 S
A. 6-8 yrs	8	1	0	
B. 9-11 yrs	13	0	0	
C. 12-15 yrs	5	3	0	
Education :				
A. primary education	15	1	0	5.391 NS
B. HSE	5	0	0	
C. Graduate	6	0	0	
Occupation :				3.4107 NS
A. Coolie	13	4	0	
B. Govt Employee	5	0	0	
C. Business	0	0	0	
D. Private Employee	1	0	0	
E. House wife	7	0	0	
Type Of Family:				5.3151 NS
A. Joint Family	17	3	0	
B. Nuclear family	9	1	0	
Income Of Family				
A. Rs <3000	10	2	0	1.3411 NS
B. Rs 3000 -5000	9	2	0	
C. Rs5000-10000	3	0	0	
D. Rs >10,000	4	0	0	
Type Of House:				
A. Terraced House	10	0	0	2.2517 NS
B. Tiled House	13	3	0	
C. Hut House	3	1	0	
Previous Exposure				
A. Yes	4	1	0	4.324

B. No	22	3	0	NS
Source Of Information:				
A. Health Personnel	16	4	0	2.2192 NS
B. Media	9	0	0	
C. Neighbors	1	0	0	

Table -4.8 shows that association between pretest level of knowledge of dengue fever with their selected demographic variables in experimental group.

The analysis revealed that there was significant association of pretest level of knowledge with demographic variables of age of mother and age of child and there was no significant association of pretest level of knowledge with demographic variables of education of mother, occupation, type of family, income, type of house, previous exposure to dengue fever among family members and previous source of information in the experimental group.

Table -4.9 Associations between pretest levels of practice of dengue fever with their selected demographic variables in experimental group.

Demographic variables	**Inadequate**	**Moderate adequate**	**Adequate**	**X^2**
Age Of The Mother:				4.7084 NS
A. 20-25 yrs	4	2	0	
B. 25-30 yrs	8	2	0	
C. 30-35 yrs	14	0	0	
Age Of Children:				
A. 6-8 yrs	7	2	0	11.4869 S
B. 9-11 yrs	12	1	0	
C. 12-15 yrs	7	1	0	
Education :				
A. primary education	16	0	0	5.3477 NS
B. HSE	6	2	0	

C. Graduate	4	2	0	
Occupation :				
A. Coolie	14	3	0	
B. Govt Employee	5	0	0	
C. Business	0	0	0	2.8047 NS
D. Private Employee	1	0	0	
E. House wife	6	1	0	
Type Of Family:				
A. Joint Family,	18	2	0	
B. Nuclear family	8	2	0	0.6429 NS
Income Of Family:				
A. Rs <3000	10	2	0	
B. Rs 3000 -5000	10	1	0	
C. Rs5000-10000	2	1	0	
D. Rs >10,000	4	0	0	1.918 NS
Type Of House:				
A. Terraced House	8	2	0	
B. Tiled House	15	1	0	1.4099 NS
C. Hut House	3	1	0	
Previous Exposure				
A. Yes	5	0	0	0.984
B. No	21	4	0	3 NS
Source Of Information:				0.936
A. Health Personnel	18	2	0	1
B. Media	7	2	0	
C. Neighbors	1	0	0	NS

Table -4.9 shows that association between pretest level of practice of dengue fever with their selected demographic variables in experimental group.

The analysis revealed that there was significant association of pretest level of practice with demographic variables of age of child and there was no significant association of pretest level of practice with demographic variables

such as age of mother ,education of mother, occupation, type of family, income , type of house ,previous exposure to dengue fever among family members and previous source of information in the experimental group.

Table -4.10 Associations between pre test levels of knowledge of dengue fever with their selected demographic variables in control group.

Demographic variables	**Inadequate**	**Moderate adequate**	**Adequate**	**X^2**
Age Of The Mother:				
A. 20-25 yrs	11	2	0	4.0043 NS
B. 25-30 yrs	7	1	0	
C. 30-35 yrs	7	2	0	
Age Of Children:				
A. 6-8yrs	15	3	0	1.5959 NS
B. 9-11 yrs	5	0	0	
C. 12-15 yrs	5	2	0	
Education :				
A. primary education	11	0	0	11.481 S
B. HSE	8	4	0	
C. GraduateEducation	6	1	0	
Occupation :				
A. Coolie	8	3	0	4.5946 NS
B. Govt Employee	1	1	0	
C. Business	2	0	0	
D. Private Employee	4	0	0	
E. House wife	10	1	0	
Type Of Family:				
A. Joint Family	16	1	0	3.1579 NS
B. Nuclear family	9	4	0	
Income Of Family:				

A. Rs <3000	6	2	0	9.4669 NS
B. Rs 3000 -5000	12	2	0	
C. Rs5000-10000	5	0	0	
D. Rs >10,000	2	1	0	
Type Of House:				
A. Terraced House	7	2	0	14.861 S
B. Tiled House	12	2	0	
C. Hut House	6	1	0	
Previous Exposure				
A. Yes	1	0	0	10.236 S
B. No	24	5	0	
Source of Information:				
A. Health Personnel	11	2	0	4.1947 NS
B. Media	12	3	0	
C. Neighbours	2	0	0	

Table -4.10 shows that association between pre test level of knowledge of dengue fever with their selected demographic variables among control group.

The analysis revealed that there was significant association of pretest level of knowledge with demographic variables such as education of mother ,type of house ,previous exposure of dengue fever among family members and there was no significant association of pre t test level of knowledge with demographic variables such as age of mother , age of child ,occupation, type of family, income , and previous source of information in the control group.

Table -4.11 Associations between pre test level of practice of dengue fever with their selected demographic variables in control group.

Demographic variables	Inadequate	Moderate adequate	Adequate	X^2
Age Of The Mother:				
A. 20-25 yrs	12	1	0	1.4377 NS
B. 25-30 yrs	6	2	0	
C. 30-35 yrs	7	2	0	
Age Of Children:				
A. 6-8 yrs	16	2	0	10.6173 S
B. 9-11 yrs	4	1	0	
C. 12-15 yrs	5	2	0	
Education :				
A. primary education	10	1	0	1.0686 NS
B. HSE	10	2	0	
C. Graduate Education	5	2	0	
Occupation :				
A. Coolie	9	2	0	8.0087 NS
B. Govt Employee	1	1	0	
C. Business	2	0	0	
D. Employee	4	1	0	
E. House wife	10	1	0	
Type Of Family:				
A. Joint Family	16	1	0	3.1579 NS
B. Nuclear family	9	4	0	
Income Of Family				
A. Rs <3000	7	1	0	17.721 S
B. Rs 3000 -5000	12	2	0	
C. Rs5000-10000	4	1	0	
D. Rs >10,000	2	1	0	
Type Of House:				
A. Terraced House	7	2	0	14.8611 S
B. Tiled House	12	2	0	
C. Hut House	6	1	0	
Previous Exposure				
A. Yes	1	0	0	10.2361 S
B. No	24	5	0	

Source Of Information:				
A. Health Personnel	11	2	0	5.7633 NS
B. Media	13	2	0	
C. Neighbors	1	1	0	

Table -4.11 shows that association between pre test level of practice of dengue fever with their selected demographic variables in control group.

The analysis revealed that there was significant association of pre test level of practice with demographic variables such as age of child &income of family, type of house, previous exposure to dengue fever among family members and there was no significant association of pre test level of practice with demographic variables such as age of mother, education of mother, occupation, type of family and previous source of information in the control group.

CHAPTER – V

DISCUSSION

This chapter deals with the discussion of the data analysed based on the objectives and hypothesis of the study. The problem statement is "**A quasi experimental study to assess the effectiveness of computer assisted instruction on knowledge and practice regarding dengue fever among the mothers of school going children at selected villages, Thanjavur District".**

This study was done to determine the effectiveness of computer assisted instruction on dengue fever among mothers of school going children at selected villages Thanjavur district.

The study was a quasi experimental study, with pre test &post test control group design. The study was conducted with 60 samples in which 30 were assigned to experimental group and 30 to control group. Non probability convenient sampling technique was used.

A semi structured questionnaire was provided to assess the knowledge and practice and observed the practice by observational check list among the mothers of school going children at selected villages. After the pretest, the computer assisted instruction was given by investigator. After 15 days from the pretest, post test was conducted by using the same questionnaire; the data was grouped and analyzed by using descriptive statistics and inferential statistics.

The first objective of the study was to assess the knowledge &practice regarding dengue fever before computer assisted instruction among the mothers of school going children.

The assessment of pretest level of knowledge & practice revealed that 26(86.7%) had inadequate knowledge & practice, 4(13.3%) had moderate adequate knowledge &practice, none of them had adequate knowledge & practice in the experimental group. Whereas in control group 25(83.3%) had inadequate knowledge &practice, 5(16.7%) had moderate adequate knowledge &practice, none of them had adequate knowledge &practice in control group.

These findings were supported by **Manprect Kavur et al, (2011)** who stated that the STP was effective in improving the knowledge and practice of mothers.

The second objective was to evaluate the effectiveness of computer assisted instruction on knowledge & practice regarding dengue fever among the mothers of school going children.

The study finding showed that CAI was effective in increasing knowledge & practice of mothers of school going children regarding dengue fever shown in table (4.6). After the intervention the post test level of knowledge & practice revealed that 23(76.7%) had adequate knowledge&practice, 7(23.3%) had moderate adequate knowledge & practice, none of them had inadequate knowledge & practice in the experimental group. Where as in control group 23(76.7%) had inadequate knowledge &practice, 7(23.3. %) had moderate adequate knowledge &practice, none of them had adequate knowledge & practice in control group, shown in table (4.4). In hypothesis (H_1) it was stated that there would be a significant difference between post test level of knowledge among experimental and control group.

The unpaired ’t’ test was carried out to test the post test score of knowledge &practice. It was stated that there would be a significant difference between post test level of knowledge in experimental and control group. This

hypothesis was accepted by the study findings (table 4.5). There was a significant difference in the mean post test level of knowledge in experimental group (21.43) and post test level of knowledge in control group (11.53). The obtained‘t’ value of knowledge was (15.3037), practice‘t’= 10.22 was significant 0.05 level shown in table (4.5).

Since CV>TV (15.30>1.960) in post test level of knowledge in experimental &control group which shows statistically significant and for practice CV>TV (10.22>1.960) which shows statistically significant.

In experimental group the mean value of pretest level of knowledge was 10.26 & its standard deviation was 2.35, the mean value of pre test level of practice was 9.93 & its SD was 1.23. After the intervention reported that the mean value of post test level of knowledge was 21.43 & its standard deviation was 3.1, the mean value of post test level of practice was 14.73 & its SD was 2.45 in experimental group. The paired‘t’ value of knowledge was 20.45 and for practice 10.4, which shows statistically significant.

Whereas in control group the mean value of pretest level of knowledge was 10.63& its standard deviation was 1.97, the mean value of pre test level of practice was 8.76 & its SD was 1.97. The mean value of post test level of knowledge was 11.53 & its standard deviation was 1.8 and the mean value of post test level of practice was 8.86& its SD was 1.94 in control group. The paired‘t’ value of knowledge was 3.46 and for practice 0.39, which shows statistically significant in knowledge but not significant in practice.

The paired ‘t’ test carried out to test pre & post test knowledge &practice score of experimental &control group. The calculated “t” value was greater than table value CV>TV (20.45>2.045) in knowledge for practice CV>TV (10.44>2.045) level in experimental group. Whereas in control group the

calculated value greater than the table value CV>TV (3.4691>2.045) for knowledge, for practice CV<TV (0.399<2.045).The research hypothesis was accepted by the study findings shown in table (4.6).

These findings were supported by **Manprect Kavur et al, (2011)** who stated that the STP was effective in improving the knowledge and practice of mothers.

The third objective to correlate the knowledge & practice regarding dengue fever among the mothers of school going children.

In the corresponding hypothesis (H_3) it was stated that there would be significant positive relationship between post test level of knowledge & practice in experimental &control group. As per the study findings there was a significant positive correlation between post test level of knowledge &practice in experimental group r=0.73 where as in control group r= 0.24 .Since the calculated value was greater than the table value, the stated research hypothesis was accepted.

These findings were supported by **Syed M.Saleem et al (2010**) who stated that preventive practices of dengue fever more in high socioeconomic class than low class.

The fourth objective of the study was to associate the pre test level of knowledge & practice at 0.05 level regarding dengue fever among the mothers of school going children with the selected demographic variables.

The present study showed that there was a significant association between the selected demographic variables. The findings revealed that there was significant association of pretest level of knowledge with demographic variables of age of mother and age of child and there was no significant association of pretest level of knowledge with demographic variables of education of mother,

occupation, type of family, income, type of house, previous exposure to dengue fever among family members and previous source of information in the experimental group.

The findings revealed that there was significant association of pretest level of practice with demographic variables of age of child and there was no significant association of pretest level of practice with demographic variables of age of mother, education of mother, occupation, type of family, income, type of house, previous exposure to dengue fever among family members and previous source of information in the experimental group.

The present study showed that there was significant association of pretest level of knowledge with demographic variables of education of mother ,type of house, previous exposure of dengue fever among family members and there was no significant association of pre test level of knowledge with demographic variables of age of mother, age of child ,occupation, type of family, income , and previous source of information in the control group.

The analysis revealed that there was significant association of pre test level of practice with demographic variables of age of child &income of family, type of house, previous exposure to dengue fever among family members and there was no significant association of pre test level of practice with demographic variables of age of mother, education of mother, occupation, type of family and previous source of information in the control group.

Since, the calculated value was greater than table value, the hypothesis (H_3) was accepted.

These findings supported by **Aar Taksande,et al,(2012)** who reported that there was a significant association of dengue fever was found to be with media, health personnel and neighbors.

CHAPTER- VI

CONCLUSION

This chapter deals with the Summary, Conclusion, Implication and Recommendations & limitation.

SUMMARY:

The purpose of the study was to assess the effectiveness of computer assisted instruction on knowledge and practice regarding dengue fever among the mothers of school going children at selected villages. It was an evaluative approach non equivalent pre test post test control group design. 60 samples were selected by non probability convenient sampling technique. After the pre-test among experimental & control group, computer assisted instruction was given to experimental group followed by a post test,15 days later, for both group using the same tool in the same setting.

The statistical analysis revealed that, there was an improvement in post test levels of knowledge and practice than pre test levels of knowledge and practice in experimental group by used the CAI package. The effectiveness of CAI was tested by used the paired & unpaired ‘t’ test. In unpaired’ test, post test scores of knowledge t = 15.30, for practice‘t’=10.22. In paired’t’ test, experimental group levels of knowledge t = 20.45, for practice t=10.44. Where as in control group levels of knowledge t= 3.4691 and for practice t= 0.399.Both‘t’ test values were statistically significant at 0.05 level and there was a positive & significant correlation (r=0.7).

There was a significant association between the demographic variables such as age of children in pretest level of knowledge and practice in experimental group. Where as in control group there was significant association between the

demographic variables such as education, type of house, previous exposure to dengue fever among family members in pretest level of knowledge. In pretest level of practice age of children, income of family, type of house, previous exposure to dengue fever among family members, previous source of information are associated demographic variables.

CONCLUSION:

This interventional study was done to assess the effectiveness of CAI on knowledge and practice regarding dengue fever among mothers of school going children at selected villages. The findings revealed that intervention was effective, the findings were consistent with the literature and it was concluded that CAI was effective in improving the knowledge and practice of mothers of school going children regarding dengue fever. Thereby help to achieve the national programme of prevention &control of communicable diseases and national rural heath mission.

IMPLICATIONS:

The present study had certain nursing implication towards the nursing education, nursing practice, nursing administration and nursing research as follows.

NURSING PRACTICE:

Nurses working in different health care setting play a vital role in enhancing the quality of life of individual and family members in community health care settings. The CAI will be an important element in improving the knowledge & practice of mother in health care services to reduce the incidence and prevalence of dengue fever in community.

Practicing nurses should develop their knowledge & skill in practicing good environmental sanitation to protect from mosquitoes bite. The nurses should create awareness regarding prevention and control of dengue fever in community.

The results of the study will help the nurses to enlighten their knowledge on importance of health education .They should also participate in giving health education to the individual & family members in community. The health education will improve the knowledge & practice of the people, prevention of this communicable disease and control programme to reduce the morbidity and mortality rates.

NURSING EDUCATION:

The finding of the study suggests,

The nursing students will be able to understand dengue fever and its incidence & prevalence among children.

It helps them to know the prevention, control measures of dengue fever such as discarding the waste products in proper way ,closing the open vessels, eliminating the stagnant water, removing the ditches on roof gutters, keeping the environment clean ,cutting down the bushes, using mosquito repellents and use of papaya leaf extract & nila vembu kudineer.

Thus the nursing students will develop knowledge in prevention and control of dengue fever to reduce of the mortality & morbidity rates.

NURSING ADMINISTRATION:

Nursing administrators can formulate policies which will include all nursing staff to be actively involved in health education programmes especially through community health centers & hospital .The community health nurse administrator should initiate to carryout period of survey on prevalence of dengue

fever among mothers of school going children to take preventive & treatment measures such as use of mosquito repellents & remove the water around houses and home remedies.

This study can create awareness regarding dengue fever and importance of health education to prevent and control it through computer assisted instruction.

NURSING RESEARCH:

This study can be used as an access to further studies .One of the aims of nursing research is to expand and broaden the scope of nursing and providing evidence –based practice in health care settings. It can also be used for the future reference as review of literature and this study can be replicated in several areas.

LIMITATION:

1. The study assessed only knowledge and practice in experimental and control group.
2. This study used the quasi experimental design.
3. Since the data collection period was limited to 6 weeks and 60 samples, study finding limits the generalizability.
4. It was very difficult to gather all the subjects at a time

RECOMMENDATION:

The following recommendations are done based on this study:

- Similar study can be conducted using true experimental design.
- A similar study can be done for a large sample for a better generation.
- A similar study can be done in hospital settings.
- A similar study can be done by using other audio visual aids.

CONCEPTUAL FRAMEWORK

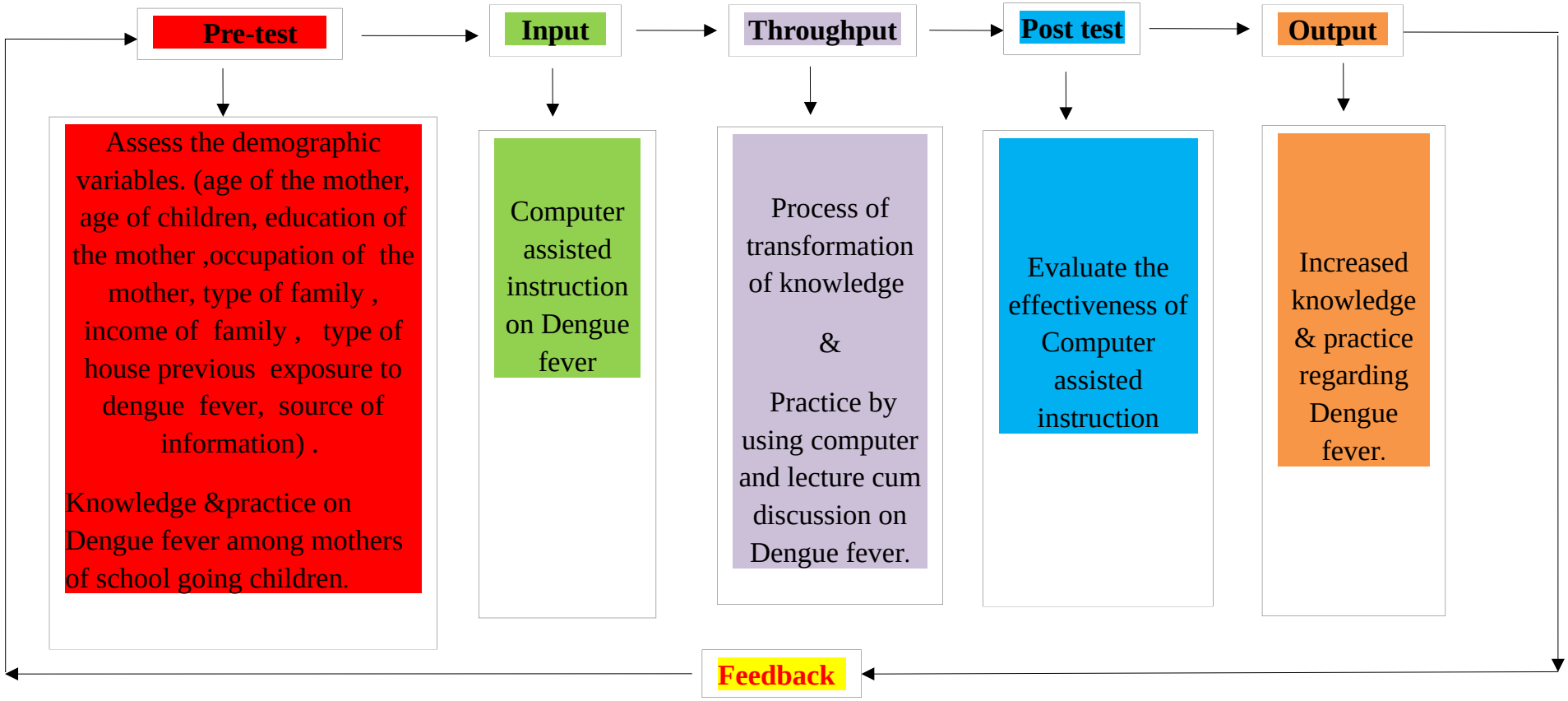


FIGURE 2.1: CONCEPTUAL FRAMEWORK BASED ON MODIFIED VERSION ON J.W KENNYS OPEN SYSTEM MODEL (1999).

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டெங்குகாய்ச்சல்

பாடம்	:	டெங்கு காய்ச்சல்
குழு	:	பள்ளி செல்லும் குழந்தைகளின் தாய்மார்கள்
நேரம்	:	45 நிமிடம்
இடம்	:	சமுதாய கூடம்
கற்பிக்கும் முறை	:	விரிவுரை மற்றும் கலந்தாய்வு
கற்பிக்க உதவும் உபகரணங்கள்	:	கணினி

பொதுவான பொருளுரை:

கற்பித்தல் மற்றும் கலந்துரையாடல் தாய்மார்கள் அனைவரும் டெங்கு காய்ச்சலின் தடுப்பு முறைகள் மற்றும் பாதுகாப்பு முறைகள் மற்றும் சிகச்சை முறைகளையும் பற்றி பொதுவான அளவு தெரிந்து கொண்டு செயல்படவேயாகும்.

குறிப்பிட்ட பொருளுரை:

கற்ப்பித்தல் முறை வடிவில் பள்ளி செல்லும் குழந்தைகளின் தாய்மார்கள் அணைவரும் தெரிந்து கொள்ள வேண்டியவை:

1. டெங்கு என்றால் என்ன?
2. டெங்கு தொற்று எவ்வாறு ஏற்ப்படும்?
3. ஈடிஸ் நுளம்புகளை எவ்வாறு அடையாளம் காணலாம்?
4. இந்நுளம்புகள் உற்பத்தியாகும் இடங்கள் எவை?
5. டெங்கு கொசு எந்த நேரங்களில் பெரும்பலும் கடிக்கும்?
6. டெங்கு தொற்று ஏற்பட்டதற்கான வெளிப்பாடுகள் யாவை?
7. டெங்கு காய்ச்சலை கண்டறியும் பரிசோனை முறைகள் என்ன?
8. டெங்கு காய்சலின் சிகிச்சை முறைகள் என்ன?
9. டெங்கு காய்சல் பரவுவதை தடுக்கும் முறைகள் என்ன?

வ. எண் .	குறிக்கோள்	நிமிடம்	பொருளடக்கம்	கற்பிப்பவரின் செயல்பாடுகள்	கற்றறிபவர் செயல்பாடுகள்	மதிப்பீடு
1		2 நிமிடம்				

		ம்	**முன்னுரை**:- டெங்குகாய்ச்சல் என்பது ஏடிஸ் **எனப்படும் பேரினத்தைச் சேர்ந்த** இனங்கள் இந்த நோயின் நோய்க்காவியாகும். தீ நுண்மத்தால் பாதிக்கப்பட்ட ஏடிசு (Aedes) வகைக் கொசுக்களால் குறிப்பாக ஏடிசு எகிப்தியால், இந்நோய் பரவுகிறது, ஆனால் இது ஒருவரிடம் இருந்து மற்றொருவருக்கு நேரடித்தொடுகை மூலம் பரவுவதில்லை.			
2	டெங்கு என்பது	2 நிமிடம் ம்	**பகல் நேர கொசுக்கடியே காரணம்.** ஏடிஸ் (Aedes) எனப்படும் கொசு கடிப்பதனாலே இந்த நோய் ஏற்படுகிறது.	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	டெங்கு என்பது என்ன?
3	**டெங்கு தொற்று ஏற்படும் முறை**	2 நிமிடம் ம்	**டெங்கு என்றால் என்ன**: இது ஒரு வைரஸ் நோய். இந்த வைரஸில் DENI, DEN 2, DEN 3, DEN 4 **என** 4 **வகைகள்** Sero type ஆகும்.	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	**டெங்கு தொற்று எவ்வாறு ஏற்படும்?**
4	ஈடிஸ் நுளம்பு		**டெங்கு தொற்று எவ்வாறு ஏற்படும்**:	கணினியை பயன்படுத்தி	விளக்கப் படத்தை	ஈடிஸ் நுளம்புகளை

	களின் அடையாளம்	2 நிமிடம்ம்	சுகதேயான ஒருவரின் உடலினுள் டெங்கு வைரஸ், ஈடிஸ் (Aedes) வகை நுளம்பினால் உட்செலுத்தப்படுவதால் தொற்று ஏற்படும். ஈடிஸ் நுளம்புகளை எவ்வாறு அடையாளம் காணலாம்:	கற்பித்தல்	கவனித்தல்	ளை எவ்வாறு அடையாளம் காணலாம்?
5	இந்நுளம்புகள் உற்பத்தியாகும் இடங்கள்	2 நிமிடம்ம்	இந்நுளம்புகளின் உடலில் வெண்ணிர வளையங்கள் (Ring) காணப்படும். இவற்றில் இரு இணங்கள் உண்டு. அவை டெங்கு வைரஸ்சாகவும் காவிகளாக (Vector) செயற்படுகின்றன. அவையாவான:- a- Ades agypti – Primary Vector b- Ades albopicters – Secondary Vector. **இந்நுளம்புகள் உற்பத்தியாகும் இடங்கள்** :	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	**இந்நுளம்புகள் உற்பத்தியாகும் இடங்கள் எவை?**
6	டெங்கு காய்ச்சலின் மறுபெயர்		இவை தெளிவான சுத்தமான மாசடையாத நீர் தேக்கங்கள் உள்ள இடங்களில் உற்பத்தியாகும். டயர், இரட்டை யோகப் கோப்பை, கூரை பீலிகள், திறந்த பொத்தல்கள்,	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	டெங்கு

7	**நுனம்பிகளின் வாழ்கை வட்டம்**	2 **நிமிடம்**	டின்கள், பாலிதின் பைகள், பிலாஸ்டிக் பைகள், குளிர்சாதன பெட்டிகளின் பின்புறம் நீர் சேரும் தட்டு, நீர்தங்கிகள், வாழை இலை அடியிலுள்ள இடைவெளி திறந்த தயிர் சட்டி, ஓடாத சலனமில்லாத நீர் நிலைகள் போன்ற நீர் தேங்கி நிற்கும எல்லா இடங்களிலும் பென்னுளம்பு முட்டை இட்டு இனபெருக்கம் செய்யும்.	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	காய்ச்சலின் மறுபெயர் என்ன?
8	**டெங்கு கொசு** கடிகும் **நேரம்**	3 நிமிடம்	டெங்கு காய்ச்சலின் மறுபெயர் என்ன? இது உயிர் ஆபத்துகளை விளைவிக்க கூடிய ஒரு கொடிய நோயாகும். இது உடலை மிகவும் வருத்தும் நோயாகையால் என்பை முறிக்கும் காய்ச்சல் (breakbone fever) எனவும் அழைக்கப்படும். இந்த நோய் பெரும்பாலும் வறண்ட, உலர் வெப்ப வலயங்களில் பெருகும்.	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	**இந்நுனம்பிபிகளின் வாழ்கை வட்டம் எத்தகையது?** **டெங்கு கொசு எந்த நேரங்களில் பெரும்பா**
		5 நிமிடம்	**இந்நுனம்பிகளின் வாழ்கை வட்டம் எத்தகையது?** இது 4 பருவங்களை கொண்டது			

9 10	டெங்கு தொற்று ஏற்பட்டதற்கான வெளிப்பாடுகள் நோயின் அறிகுறிகள்	5 நிமிடம் ம்	**அவையாவன**:- முட்டை குடம்பி கூட்டுபுழு, நிறையுடலி முதல் 3 பருவங்கழும் நீரில் காணப்படும். <u>முட்டை</u>: ஒரு முறையில் பெண் நுனம்பு 100 முதல் 200 வரையான முடட்டைகள் இடும். **டெங்கு கொசு எந்த நேரங்களில் பெரும்பாலும் கடிக்கும்**: இந்நுளம்புகள் பகலிலேயே கடிக்ககூடியது (Day time biters) காலையில் 7 முதல் 10 மணி வரையும் மாலையில் 3 முதல் 5 மணி வரையும் இதன் கடிக்கும் தன்மை உச்சமாகும். இவை 3 முதல் 4 வாரங்கள் உயிர் வாழும். **<u>தங்குமிடம்</u>** Indoor – தளபாடங்களுக்கு கீழால், தொங்கும்பொருட்களில் (ஆடைகள்) வீட்டு திரைகள் (Curtains), சுவர்கள்.	கணினியை பயன்படுத்தி கற்பித்தல் கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல் விளக்கப் படத்தை கவனித்தல்	**லும் கடிக்கும்**? டெங்கு தொற்று ஏற்பட்டதற்கான வெளிப்பாடுகள் யாவை?

11	**டெங்கு காய்ச்சலை லை கண்டறிவ தற்கான பரிசோத னை முறைகள் ள்**	5 நிமிடம் 5 நிமிடம்	Outdoor – மரம், செடி, தாவரங்கள் மற்றும் பாதுகாப்ன இடங்கள். **<u>பறக்கும் தூரம்</u>** ஏறத்தாள 500 மீட்டர் பறக்ககூடியது. டெங்கு தொற்று ஏற்பட்டதற்கான வெளிப்பாடுகள் 1. டெங்கு காய்ச்சல் (Dengue Fever DF) 2. டெங்கு குருதி கசிவு காய்ச்சல் (Dengue Hemorrhagic Fever DHF) 3. Dengue Shock Syndrome. • அறிகுறிகள் இல்லாத காய்ச்சல் நிலை • ஆரம்ப நிலை டெங்கிக் காய்ச்சல் நிலை • இரத்தப் பெருக்குடன் கூடிய டெங்கிக் காய்ச்சல் நிலை. நோயின் அறிகுறிகள் : • கடும் தலைவலி • கடுமையான மூட்டு மற்றும் தசை வலி • வாந்தி	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	நோயின் அறிகுறிகள் ள் யாவை? **டெங்கு காய்ச்சலை லை கண்டறிவ தற்கான பரிசோத னை முறைகள் யாவை?**

			• தோல் சிவத்தல் (rash) • வெள்ளை அணுக்கள், இரத்தவட்டுகள் குறைதல் • மிதமான இரத்தப்போக்கு வெளிப்பாடு • (மூக்கில் இரத்தப்போக்கு, • இரத்தப்புள்ளிகள்அடி முட்டிகளில் பொதுவாகவும், • சிலருக்கு உடல் முழுதுமேஅரிப்பு ஏற்படலாம **டெங்கு காய்ச்சலை கண்டறிவதற்கான பரிசோதனை முறைகள்:** • ரத்தத் தட்டு குறைந்தால் டெங்குதான் • டெங்கு காய்ச்சல் என்பது அச்சம் ஏற்பட்டால் FBC என்று சொல்லப்படும் Full blood Count செய்து பார்க்கலாம். • அதில் முக்கியமாக Platelet count மற்றும் PCV ஆகியவற்றையே மருத்துவர்கள் எடுத்துப் பார்ப்பார்கள். • ஒரு சில நாட்களுக்கு இப்பரிசோதனையை மீண்டும் மீண்டும்			

12	**நோய் பரவுவதை தை தடுக்கும்**	10	செய்து நோயின் நிலையைத் தொடர்ந்து உறுதி செய்யலாம். • ரத்த தட்டுக்களின் எண்ணிக்கை படிப்படியாக குறைந்து கொண்டே வரும் பட்சத்தில் தாக்கியிருப்பது டெங்கு காய்ச்சல்தான் என்று உறுதி செய்யலாம். நோய் பாதித்தவரைக் கடித்த (குத்திய) கொசு மற்றொருவரை கடிப்பதன் மூலம் இந்நோய் பரவுகிறது, சில சந்தர்ப்பங்களில் குருதி மாற்றீடு மூலமும் பரவலாம். இக்கொசுக்கள் பொதுவாக பகலிலேயே மனிதர்களைக் கடிக்கின்றன. பொதுவாக விடியற்காலையிலும் பிற்பகலிலும் இக்கொசு கடிக்கின்றது. • டெங்கு காய்ச்சல் தாக்கியதற்கான அறிகுறி தென்பட்டால் தாமதமின்றி மருத்துவரை அணுகி ரத்தப் பரிசோதனை செய்து கொள்ளவும். டெங்கு தாக்கினால் உடலின் நீர்ச்சத்தை குறைத்து விடும். • ரத்தத்தட்டுகளில் (பிளேட்லெட்ஸ்)	கணினியை பயன்படுத்தி கற்பித்தல்	விளக்கப் படத்தை கவனித்தல்	நோய் பரவுவதை எவ்வாறு

	முறைகள்	நிமிடம்	எண்ணிக்கை குறையும். • தொடக்கத்திலேயே காய்ச்சலை கவனிக்காமல் விட்டால் நுரையீரல், வயிறு, சிறுநீர்ப்பாதை என பல இடங்களில் ரத்தக்கசிவு ஏற்பட்டு உயிருக்கே ஆபத்தாகிவிடும். **ரத்தம் கசிந்தால் எச்சரிக்கை:** • டெங்கு காய்ச்சலின் அடுத்த அறிகுறி ரத்தம் கசிவது. • ரத்த தட்டுக்களின் எண்ணிக்கை குறைவதால் ரத்தம் உறைதல் தடுக்கப்படுகிறது. • இதன் காரணமாக மூக்கில் இருந்தோ உடம்பில் அரிக்கும் இடங்களில் இருந்தோ ரத்தம் கசியலாம். • குளுக்கோஸ் ஏற்றும் இடத்தில் இருந்தோ, மலம் கழிக்கும் போதே ரத்தம் • வெளியேறும். இதுதான் அபாயகட்டம்.			கட்டுப்படுத்தலாம் ?

			• **ஆஸ்பிரின் சாப்பிட கூடாது**. • சாதாரண காய்ச்சல் என்று நினைத்து பாராசிட்டமால் கொடுப்பார்கள். • ஆனால் எந்த காரணம் கொண்டும் டெங்கு பாதித்தவர்களுக்கு ஆஸ்பிரின் புரூபென், மருந்துகளை கொடுக்கக் கூடாது. ஏனெனில் இது ரத்தத்திட்டுகளை குறையச்செய்து ரத்தக்கசிவினை ஏற்படுத்தும். நோய் பரவுவதை எவ்வாறு கட்டுப்படுத்தலாம்: ➢ வீட்டையும் சுழலையும் சுத்தமாக வைக்கவும். ➢ குப்பைகளை எரித்து அல்லது புதைத்து விடவும் அல்லது பாதுகாப்பான முறையில் அகற்றவும். பாதை ஓரங்களில் வீச வேண்டாம். ➢ நுனம்பு உற்பத்தியாகும் இடங்களை சுத்தம் செய்து உற்பத்தியை தடுக்கவும்.			

			➢ கூரை பீலிகளை தேய்த்து சுத்தம் செய்யவும். மேல் மாதெட்டில் நீர் தேங்காதாவாறு பார்த்துக்கொள்ளவும். ➢ நீர் தாங்கிகளை நுனம்பு உட்புகதாவாறு மூடி வைக்கவும். ➢ நீர் தேக்கங்களில் நுனம்பின் குடம்பிகளை உண்னும் மீன்களை வளர்க்கவேண்டும். ➢ சுகதேகிகள் மற்றும் டெங்கு நோயாளிகள் நுனம்பு கடிக்குள்ளாவதை தடுக்கவும். ➢ நுனம்பில் இருந்து பாதுகாப்பு பெற நுனம்பு வளைகளை பயன்படுத்தலாம். ➢ நுனம்புச் சுருள் பாவிக்கலம். ➢ நுனம்புகளை வெளியேற்றும் மின்குமிழ்களை பயன்படுத்தலாம் (Mosquito repellents light) ➢ காலையும் மாலையும் வீட்டில் வேப்பிலை புகைமூட்டம் போடலாம். தண்ணீர் தேங்க விடாதீங்க:			

			• மழைக்காலங்களில்தான் டெங்கு காய்ச்சல் வரும் என்ற நிலை மாறி கோடையிலும் வந்து மக்களை வாட்டி வதைக்கிறது டெங்கு காய்ச்சல். இதற்கு காரணம் கோடையிலும் நல்ல மழை பெய்து ஆங்காங்கே தண்ணீர் தேங்குவதுதான். • வீட்டை சுற்றி தேங்கியிருக்கும் தண்ணீரில் முட்டையிட்டு இனப்பெருக்கம் செய்யும் இந்த கொசு பகல்நேரத்தில்தான் கடிக்கும். • கொசு உற்பத்தியாவதை தடுக்க வீட்டைச்சுற்றி தண்ணீர் தேங்காமல் தடுக்க வேண்டும். கொசு கடிக்காதவகையில் நன்கு மூடப்பட்ட பருத்தி ஆடைகளை அணியுங்கள். குடிநீரை நன்கு கொதிக்க வைத்து ஆறவைத்து குடிக்கவேண்டும். நீர்ச்சத்து தேவை: • டெங்கு பாதித்தவர்களுக்கு உடம்பில்			

			நீர்ச்சத்து குறைந்து விடும். • உடம்பில் நீர்ச்சத்தினை தக்கவைக்கவே குளுக்கோஸ் ஏற்றுக்கின்றனர். • அவ்வப்போது ஆரஞ்ச் ஜூஸ் கொடுப்பார்கள். அதை கண்டிப்பாக குடிக்கவேண்டும். • பின்னர் எந்த அளவிற்கு நம்முடைய உடம்பில் இருந்து நீர் வெளியேறுகிறது என்று கண்காணிக்கின்றனர். • நோயாளிகள் அடிக்கடி சிறுநீர் கழிக்கவேண்டும் என்று மருத்துவர்கள் அறிவுறுத்துகின்றனர். ரத்தம் ஏற்றலாம்: • ரத்தக்கசிவு ஏற்படும் வரை டெங்கு பற்றி அச்சம் கொள்ளத்தேவையில்லை. எனவே ரத்தக்கசிவு ஏற்படும் அபாயம் இருப்பின் ரத்தத்தட்டுக்களின் எண்ணிக்கையை அதிகரிக்க ரத்தம் ஏற்றுவார்கள் • டெங்கு தாக்கியதனால் உடலில் நீர்			

			இழப்பு குறையாமல் இருக்க இளநீர், கஞ்சி, உப்பு கரைசல் போன்ற நீர்ச்சத்து அதிகம் உள்ள உணவுகளை எடுத்துக்கொள்ளவேண்டும். காய்ச்சல் அறிகுறி தென்பட்ட உடன் சுயமாக மாத்திரைகளை வாங்கி உட்கொள்ளக்கூடாது.			

முடிவுரை:-

இதுவரை நாம் டெங்கு என்றால் என்ன அதன் தொற்று எவ்வாறு ஏற்பாடும் மற்றும் நுளம்புகளை எவ்வாறு அடையாளம் காணலாம், உற்பத்தியாகும் இடங்கள், நுளம்புகளின் வாழ்க்கை வட்டம், டெங்குகாய்ச்சலின் அறிகுறிகள் மற்றும் அதன் சிகிச்சை முறைகள் பற்றி கற்றுகொண்டோம். நீங்கள் அனைவரும் டெங்குகாய்ச்சலினால் ஏற்படும் விளைவுகள் மற்றும் சிகிச்சிமுறைகளை பற்றி முழுமையாக அறிந்துகொண்டதுடன் மட்டும்மின்றி அதை தடுக்கும் செய்முறைகளை உங்கள் தினசரி வாழ்விலும் கடைபிடிப்பீர்கள் என நம்புகிறேன்.

நன்றி!

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ANNEXURES -7

COMPUTER ASSISSTED INSTRUCTION

TEACHING MODULE

Topic	: Dengue Fever
Group	: Mothers of School Going Children
Venue	: Community Hall
Time Duration	: 45 Min
Av Aids	: LCD
Method of Teaching	: Lecture cum Discussion

GENERAL OBJECTIVES:

The group will be able to understand & gain knowledge about dengue fever and prevention &controlling measures of dengue &apply this knowledge and practice in care of child with dengue and elimination of mosquitoes breeding around houses & uses of mosquito's repellents.

SPECIFIC OBJECTIVES: The group will be able to

- define the dengue fever
- indicates the incidence of dengue fever
- explain the epidemiology of dengue fever
- list down the mode of transmission
- enumerates the clinical manifestation
- list the grading of severity of DHF
- indicate the laboratory diagnosis
- explain the treatment of dengue fever
- explain the prevention &control measures of dengue fever
- explain about the control of mosquito breeding, remedies for dengue fever.
- list down the complication.

S No	Time	Specific Objectives	Content	Teacher's Activity	Learner's Activity	A.V Aids	Evaluation
1	1 mts	The people are able to	**INTRPODUCTION** Dengue virus infections are significant causes of morbidity	Introduce the topic	listening	**L C**	

		introduce the topic	and mortality in many parts of the world and is an EMERGING GLOBAL health problem. Dengue infection causes a spectrum of illness that ranges from mild, nonspecific viral syndrome to severe and fatal disease. Dengue fever is an acute febrile illness caused by flavi virus, which has four serotypes; DEN1, DEN2, DEN3 AND DEN4 respectively.			**D**	
2	1mts	The group will able to define the dengue fever	**DEFINITION** Dengue is an acutely infectious mosquito - borne viral disease characterized by episodes of ***"saddle back"*** fever, muscle and joint pain, accompanied by an initial erythema and a terminal rash of varying morphology. It is a life threatening fever and is transmitted through the aedes mosquito an indoor vector of man. The disease is also called as ***break bone fever or dandy fever.***	Defining &explaining	listening	**L** **C** **D**	What do you mean dengue fever?

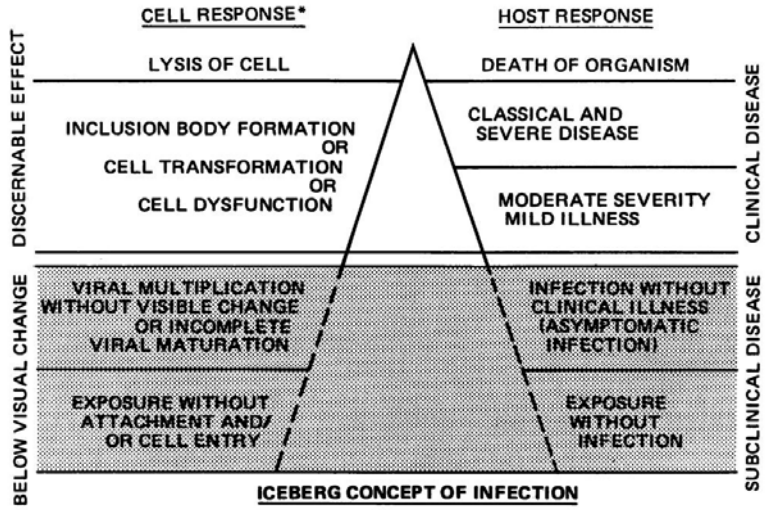
3	1mts	The group will able to understand the incidence of dengue fever	**INCIDENCE** • In India first outbreak of dengue was recorded in 1812 • Over the past 10-15 years dengue has become leading causes of hospital admission &death among children next to diarrhea and ARI, in the south East Asian region. • The worldwide incidence is estimated to be 50 to 100 million cases of dengue fever (DF) and several hundred thousand cases of dengue hemorrhagic fever (DHF) per year. • DHF is more serious and the fatality rate is about 5%. • Children younger than 15 years comprise 90% of DHF subjects in the world. DHF can affect both adults and children. • The world's largest known epidemic occurred in Cuba in 1981. More than 116,000 persons were hospitalized with as many as 11,000 cases reported in one single day.	Explaining	Listening	**L** **C** **D**	What is the incidence of dengue fever?

4	1mts	The group will able to explain the epidemiology of dengue fever	**EPIDEMIOLOGICAL FEATURES** **Agent :** Dengue fever is caused by four distinct but closely related dengue viruses called serotypes (DEN-1,DEN-2,DEN-3,DEN-4) & transmitted to humans through the bites of infected mosquitoes (Aedes Aegypti is the primary vector). **Reservoir infection** Human, Mosquitoes, (transovarial transmission extremely high levels of infectious particles in salivary glands) monkey - mosquito cycles common in West Africa & south East Asia. **Vector** Mosquitoes (Aedes Aegypti and other Aedes species) eggs of Aedes aegypti can withstand long periods of desiccations up to one year. Aedes Aegypti mosquitoes, which are most active during the day, are usually found near human dwellings, & are often present indoors. Elevated temperatures significantly shorten the incubation periods for the dengue virus in mosquitoes (This increases the rate of mosquito human transmission of virus). Aedes Aegypti cannot withstand temperatures below 48^{o}F, & will die	Explaining	listening	**L** **C** **D**	What is the epidemiology of dengue fever?

			after less than an hour of 32^0F. It is currently limited to a range below 35^0F latitude. **HOST FACTORS AGE:** All ages are susceptible. In endemic areas, a high prevalence of immunity in adults may limit out breaks to children. **RACE**: Ethnicity is no specific, but the disease distribution is geographically determined. Fewer cases have been reported the black population than in other races. **SEX** No prediction is known; however, fewer cases of DHF/DSS have been reported in men than in women. **ENVIRONMENTAL FACTORS** The mosquitoes that transmit dengue live among humans & their breeding places are 1. Tropical & Subtropical area 2. Rainy season 3. Low socio—economic status & poor sanitation. 4. Discarded tires, flower pots, old oil drums, coconut shell and water storage containers close to human dwellings.				

			Unlike the mosquitoes that cause malaria, dengue mosquitoes bite during the day. Pails, water-storage jars, basin, Discarded receptacles, Choked. 1. roof gutters ,Gully Traps, Unused toilet bowls and cisterns 2. Aircon,Tree Holes, bamboo stumps, Leaf axils, fallen leaves 3. Ground Depression, Tray and dish rack tray,.Concrete drains. **MODE OF TRANSMISSION** The reservoir of infection is both man and mosquito. The transmission cycle is ***"Man-mosquito-Man"***. Aedes Aegypti is the main vector. Dengue outbreaks have also been attributed to Aedes albopictus, Aedes bolynesiensis, and several species of the Aedes scutellaris complex. Aedes Aegypti most bites occurs during the 2 hours after sunrise & several hours before sun set. Vertical transmission (Infected progency) does occur, however it is relatively low. **PERIOD OF COMMUNICABILITY**				

			There is no evidence of person to person transmission. **INCUBATION PERIOD** 3-14 days usually 4-7 days.				
5	5mts	The group will able to explain the pathophysiology	**PATHOPHYSIOLOGY** • When a mosquito carrying dengue virus bites a person, the virus enters the skin together with the mosquito's saliva. • It binds to and enters white blood cells, and reproduces inside the cells while they move throughout the body. • The white blood cells respond by producing a number of signaling proteins, such as cytokines and interferons, which are responsible for many of the symptoms, such as the fever, the flu-like symptoms and the severe pains. • In severe infection, the virus production inside the body is greatly increased, and many more organs (such as the liver and the bone marrow) can be affected. • Fluid from the bloodstream leaks through the wall of small blood vessels into body cavities due to capillary	Lecture cum discussion	listening	**L** **C** p **D**	What is the pathological changes in dengue fever?

			permeability. As a result, less blood circulates in the blood vessels, and the blood pressure becomes so low that it cannot supply sufficient blood to vital organs.  				
6	5mts	The group will able to enlist the clinical manifestation of dengue	**CLINICAL MANIFESTATIONS :** Dengue fever occur in three main clinical forms ❖ **DENGUE FEVER** ❖ **DENGUE HAEMORRHAGIC FEVER** ❖ **DENGUE SHOCK SYNDROME** **CLASSICAL DENGUE FEVER** ▪ All ages & both sexes are susceptible to dengue fever.	Lecture cum discussion	listening	L C D	What is all the clinical manifestation of dengue fever?

		fever	Children usually have a milder disease than adults. The illness is characterized by in incubation period of 3-10 days (Commonly 5-6 days). ▪ The onset is sudden with chills and high fever, intense headache, muscle & joint pains, which prevent all movements. Within 24 hours retro–orbital pain, particularly on eye movements or eye pressure and photophobia develops. ▪ Other common symptoms include extremely weakness, anorexia, constipation, altered taste sensation, colicky pain and abdominal tenderness, dragging pain in inguinal region, sore throat & general depression. ▪ Fever is usually between 39^0 c - 40^0c. Fever is typically but not inevitably followed by a remission of a few hours to 2 days (biphasic curve). ▪ The skin eruptions appear in 80% of cases during the remission or during second febrile phase, which lasts for 1-2days. The rash is accompanied by similar but milder symptoms. The rash may be diffuse flushing, mottling or fleeting pin-point eruptions on the face, neck & chest during				

			the first half of the febrile period & a conspicuous rash,that may be maculopapular or scarlatiniform on 3rd or 4th day. ▪ It starts on the chest & trunk and may spread to the extremities & rarely to the face. It may be accompanied by itching and hyperaesthesia. The rash last for 2 hours to several days and may be followed by desquamation. ▪ Fever lasts for about 5 days, rarely more than 7 days after which recovery is usually complete although convalescence may be protracted. **DENGUE HAEMORRHAGIC FEVER** Dengue hemorrhagic fever (DHF) is a severe form of dengue fever, caused by infection with more than one dengue virus. The severe illness is thought to be due to double infection with dengue virus serotypes – the first infection probably sensitizes the patient, while the second infection with different serotype appears to produce an immunological catastrophy. **DENGUE SHOCK SYNDROME** ➢ Dengue shock syndrome, a more severe form of the disease characterized by shock and haemo concentration, may ensue.				

			➢ Circumstantial evidence suggests that secondary infection with dengue serotype 2 following serotype 1 infections is a particular risk factor for severe disease..				
			The course of dengue illness can be divided into three phase ➢ Febrile phase ➢ Critical phase ➢ Recovery phase **FEBRILE PHASE** Following an incubation period of four to six days, the illness commonly begins abruptly with high fever accompanied by facial flushing & headache. Anorexia, vomiting, epigastric discomfort, tenderness at the right costal margin & generalized abdominal pain are common. **CRITICAL PHASE** Around the time of defervescence, when the temperature drops to 37.5^0c - 38^0c or less, and remains below this level, usually on days 3-7 of illness, an increase in capillary permeability in parallel with increasing haemotocrit level may occur. This marks the beginning of the critical phase. The period of clinically significant plasma leakage usually lasts 24-48 hours.				

			RECOVERY PHASE If the patient survives the 24-48 hours critical phase, a gradual reabsorption of extravascular compartment fluid takes place in the following 48-72 hours. **SEVERE DENGUE** It is defined by one or more of the following : ➢ Plasma leakage that may lead to shock (dengue shock) and / or fluid accumulation, with or without respiration distress. ➢ Severe bleeding ➢ Severe organ impairment				
			CLINICAL DIAGNOSIS **a. Fever - acute onset, high, continue and lasting 2-7days.** **b. Hemorrhagic manifestations, including at least a positive tourniquet test.** ❖ Petechiae ,purpura ,ecchymosis ❖ Epistaxis, gum bleeding ❖ Haematemesis and / or melaena **c. Enlargement of liver**				
7	2mts	The group will able to	**GRADING OF SEVERITY OF DHF** The severity of DHF has been classified into 4 grades	Lecture cum	listening	**L C**	How will you grade

		list the grading of severity of DHF	according to two pathophysiological hallmarks – shock and bleeding. **Grade I** Fever accompanied by non - specific constitutional symptoms. The only haemorrhagic manifestation is a positive tourniquets test. **Grade II** Patient with spontaneous bleeding usually in the form of skin or other haemorrhages in addition to the manifestation in grade I. **Grade III** Circulatory failure manifested by rapid & weak pulse, narrowing of pulse pressure or hypotension with the presence of cold clammy skin & restlessness. **Grade IV** Profound shock with undetectable blood pressure & pulse. The presence of thrombocytopenia with concurrent haemo-concentration differentiates grade 1 and grade 2 DHF from DF & other disease.	discussion		**D**	the severity of DHF?

9	2mts	The group will able to indicate the laboratory diagnosis	**LABORATARY DIAGNOSIS** a) Thrombocytopenia(1,00,000/mm^3 or less) b) Haemoconcentration ; haematocrit increased by 20 % or more of base – line value. The first two clinical criteria plus thrombocytopenia & haemoconcentration or a rising haematocrit are sufficient to establish a clinical diagnosis of DHF. c) Platelet count – less than 1.5 unit a clinical diagnosis of DHF	Explaining	listening	**L** **C** **D**	How will you diagnose the dengue fever?
10	5 mts	The group will able to explain the treatment of dengue fever	**TREATMENT** Depending On the Clinical Manifestation & other circumstances, patients may be divided into three broad groups for treatment Group A – patients with uncomplicated disease who may be sent home; Group B – patients for in hospital management; and Group C – patients who require emergency treatment urgentreferral. A full blood count should be done at the first visit. A haematocrit test in the early febrile phases establishes the patient's	Explaining	listening	**L** **C** **D**	What is the treatment of dengue fever?

			own baseline haematocrit. A rapidly decreasing platelet count in parallel with a rising haematocrit compared to be baseline in suggestive of progress to the plasma leakage / critical phase of the disease. In the absence of the patient's baseline, age specific population haematocrit level could be used as a surrogate during the critical phase. **Treatment of group A cases** These are patients who are able to tolerate adequate volumes of oral fluids & pass urine at least once every 6 hours, and do not have any of the warning signs, particularly when fever subsides. Encourage oral intake of oral rehydration solution, fruit juice & other fluids containing electrolytes & sugar to replace losses from fever and vomiting. Adequate oral fluid intake may be able to reduce the number of hospitalization. **Treatment of group B case** Patient may need to be admitted to a secondary health care Centre for close observation, particularly as they approach the critical phase. These include patients with warning signs, those				

			with co-existing conditions that may make dengue or its management more complicated (such as pregnancy, infancy, old age, obesity, diabetes mellitus, renal failure, chronic haemolytic diseases), and those with certain social circumstances (such as living alone, or living far from a health facility without reliable means of transport). **Treatment of group C** Patients require emergency treatment & urgent referral when they are in the critical phase of disease, i.e. when they have: ▪ Severe plasma leakage leading to dengue shock and/or fluid accumulation with respiratory distress; ▪ Severe hemorrhages; ▪ Severe organ impairment (hepatic damage, renal impairment, cardiomyopathy, encephalopathy or encephalitis)				
11	5 mts	The group will able to enumerates the treatment of shock	**Treatment of shock:** **A) Management of compensated shock** ▪ Start intravenous fluid resuscitation with isotonic crystalloid solutions at 5-10ml /kg/ hour over one hour. Then reassess the patient condition (vital signs, capillary refill time,	Explaining	listening	L C D	What is the treatment of shock?

			haematocrit, urine output).The next steps depend on the situation. **B) Management of hypertensive shock** ▪ Patient with hypotensive shock should be managed more vigorously. The action plan for treating patients with hypotensive shock is as follows. ▪ Initiate intravenous fluid resuscitation with crystalloid or colloid solution (if available) at 20ml/kg as a bolus given over 15 minutes to bring the patient out of shock as quickly as possible.				
12	5mts	The group will able to explain the prevention &control measures of dengue fever	**PREVENTION AND CONTROL** At present there is no specific treatment. No vaccine is currently available. The only method of controlling or preventing Dengue fever is to combat the vector mosquitoes. 1. Vector control is implemented using environmental management and chemical methods. Proper solid waste disposal and elimination of stagnant water in domestic environment and improved waste storage practices. 2. Aerosol and liquid spray has to be applied directly to the adult mosquitoe for effective killing, eg: house hold pesticides.	Explaining	listening	L C D	What are all the prevention &control measures of dengue fever?

			3. Mosquitoe coil & electric mosquito mat/ liquid has to be placed near possible entrance, such as window, for mosquito. 4. Wear long – sleeved clothes and long trousers when going outdoors. Bodies could be protected from mosquito bite by applying insect repellent on the clothes and exposed part of the body especially when you travel to Dengue fever endemic areas. 5. Mosquito bed net could be used when the room is not air – conditioned. At present, there is no effective vaccine against dengue fever. Therefore, the best way to prevent the disease is to take appropriate personal preventive measures against mosquito bites. 1. Travellers should wear light-coloured and long sleeved clothes and trousers. 2. Rest in air – conditioned or well- screened rooms. 3. Apply mosquito repellent containing DEET over the exposed parts of the body. 4. Avoid staying in scrubby areas. 5. Keeping unscreened windows and doors closed.				
13	5mts	The group	**HEALTH EDUCATION**	Lecture cum	listening	L	How will you

		will able to understand about the control of mosquito breeding	Health education by nursing personnel is essential to prevent mosquito bites, breeding places of Aedes Aegypti. ➢ To prevent mosquitoe bite, people are adviced to ✓ Use mosquito repellent cream on exposed parts both day & night. ✓ Use mosquito nets or repellent at night. ✓ Cover whole body parts to avoid exposed arms & legs. ➢ To prevent mosquito breeding places, people are advised to ✓ Clean or remove breeding place of Aedes aegypti usually broken utensil, Cigarette, tins & etc. ✓ Periodical cleaning or drying of man- made water tanks, water containers. ➢ General anti mosquito measures, i.e. using repellants. ✓ Check and inspect the ship for mosquito before leaving a part to prevent emmigrations of mosquitoes. ✓ Check & inspect the aircraft before leaving airport. ✓ Aerosal spray, ultra low volume (ULV) quantities of malathion or sumithion.	discussion		C D	Control the mosquito breeding?
14	3 mts	The group will able to	**HOME REMEDIES OF DENGUE FEVER:** **Neem for dengue fever**:	Explaining	listening	L C	What are the home remedies

		understand about home remedies for dengue fever	Neem leaves are medicinally important and it is used in dengue fever cure ayurveda medicine and also in siddha treatment. Collect a bunch of malai vembu and extract the juice by grinding the leaves and filtering in a clean white cloth. Drink 10ml of neem juice four times a day, which kills the dengue virus. **EXTRACTS OF PAPAYA LEAVES:** The government has recommended the **extracts of papaya leaves**, mountain neem leaves and Andrographis paniculata (Nilavembu in Tamil) for the prevention and treatment of dengue fever. **Carica papaya leaves contain** various phytoconstituents like **saponins, tannins, cardiac glycosides&alkaloids.the alkaloids present include carpaine , pseudocarpaine, dyhydrocarpaine I&II.**These constitutes can **act on the bone marrow, prevent its destruction &enhance its ability to produce platelets. moreover, it can also prevent platelet destructionin the blood** &thereby increase the life of the platelet in circulation. carica papaya was found to have protective effect on the bone marrow &stimulate haemopoiesis of the cells ,particularly the myeloblasts, & megakaryocytes.			D	for dengue fever?

15	1 mts	The group will able to list down the complications	**Complications** Complications are rare but may include the following; o Brain damage from prolonged shock or intracranial hemorrhage o Myocarditis o Encephalopathy o Liver failure **SUMMARY:** So far we were discussed about the dengue fever which includes definition, epidemiological triad and pathological changes, clinical manifestation of dengue fever and its complication, treatment, prevention & control measures and its home remedies. I hope you all understood about this topic. **CONCLUSION:** Through this health education, the group acquired knowledge and skill regarding dengue fever and its prevention, control measures and home remedies. Researcher instructed them to apply this knowledge & skills in to their practice while taking care of child with dengue fever.	Explaining	listening	**L** **C** **D**	What are all the complications of dengue fever?

mth; Nyb nrtpypah; fy;Yhp> jQ;rhT+h; -7.
Neh;Kfj; Njh;tpd; tbtikg;G – jkpohf;fk;

gFjp -1 : gs;sp nry;Yk; Foe;ijfspd; jha;khh;fs; gw;wpa tpguk;.
Fwpg;G : gpd;tUk; tptuq;fis ftdkhfg;gbj;J rhpahd gjpYf;F mjd; gf;fthl;by; bf; (✓) nra;aTk;.

thpir vz;:

1. taJ.
   (m). 20 to 25taJ> (M). 25 to30taJ>
   (,). 30 to35taJ

2. Foe;ijapd; taJ
   (m). 6 - 8 taJ> (M). 9-11taJ> (,). 12-15taJ

3. fy;tpj;jFjp
   (m). gbg;gwpT ,y;iy> M).Muk;gg;gs;sp>
   (,). Nky;epiyg;gs;sp> (<).gl;lg;gbg;G

4. gzp
   (m).$yp> (M).muR Ntiy> (,). Ranjhopy;>
   (<).jdpahh;Ntiy> (c).,y;yj;jurp.

5. FLk;gtif
   (m). $l;Lf;FLk;gk;> (M). jdpf;FLk;gk;.

6. FLk;g tUkhdk;.
   (m). &.3000j;jpw;F FiwT> (M).&.3000-5000>
   (,). &.5000–10000 <).10000 j;jpw;FNky;

7. tPl;bd; tif
   (m). kr;R tPL> (M). Xl;L tPL> (,). $iu tPL

8. cq;fs; FLk;g cWg;gpdh;fspy; ahuhtJ nlq;F fha;r;rypdhy; ghjpf;fg;gl;bUf;fpwhh;fsh?
   (m). Mk;> (M).,y;iy

9. Kd; jfty;fs;
   (m). Rfhjhu gzpahsh;fs; %yk;> (M). njhiyf;fhl;rp %yk;> (,). mz;iltPl;Lf;fhuh; %yk;

tbtikf;fg;gl;l Nfs;tpg;gbtk;

nlq;F fha;r;ry; rk;ke;jkhd mwpT kjpg;gPLjYf;fhd Nfs;tp gbtk;

gFjp: 2

Kd;Diu

tzf;fk;!

jp. tprhyl;rp vd;fpw ehd; mth; Nyb nrtpypah; fy;Y}hpapy; gbf;Fk; khztp. ehd; nlq;F fha;r;ry; gw;wpa tpopg;Gdh;T kw;Wk; mjdhy; Vw;gLk; tpisTfis gw;wp cq;fSf;F njhpe;jpUf;Fk; jfty;fis mwpa tpUk;GfpNwd;. mjdhy; cq;fis ,e;j

Ma;tpy; gq;nfLj;Jf;nfhs;SkhW Ntz;bf;nfhs;fpNwd;.cq;fSila gjpy;fs; ,ufrpakhf itj;Jf;nfhs;sg;gLk; vd cWjpaspf;fpNwd;.

tbtikf;fg;gl;l Nfs;tpg;gbtk;

nlq;F fha;r;ry; rk;ke;jkhd mwpT kjpg;gPLjYf;fhd Nfs;tp gbtk;

Nf. vz;.	Nfs;tpfs;	kjpg; ngz;fs;
1.	nlq;F fha;r;rypd; fhuzp vJ?	
	(m). nfhRf;fs;	( )
	(M). kz; <	( )
	(,).<	( )
2.	ve;j tif nfhRf;fs; nlq;Fit gug;Gfpd;wd?	
	(m). ngz; mdhgpy];	( )
	(M). ngz; Vb]; v[pg;b	( )
	(,). ngz; fpAyf;];	( )
3.	nlq;F fha;r;rypd; tsh;r;rp fhyk;?	
	(m). 3-14 ehl;fs;	( )
	(M).4-9 ehl;fs;	( )
	(,).10-12ehl;fs;	( )
4.	nlq;F fha;r;rypd; kWngah; vd;d?	
	(m). ilgha;L fha;r;ry;	( )
	(M). kQ;rs; fha;r;ry;	( )
	(,).vOk;G KwpT fha;r;ry;	( )
5.	nlq;F fha;r;ry; nfhR ve;j Neuj;jpy; ngUk;ghYk; fbf;Fk;?	
	(m). fhiy kw;Wk; kjpak;	( )
	(M). ,uT kw;Wk; kjpak;	( )
	(,). fhiy kw;Wk; ,uT	( )

6.	nlq;F fha;r;ry; nfhR nghJthf ve;j ePhpy; cw;gj;jpahfpd;wd?	
	(m). rhf;filePh;	( )
	(M). Rj;jkhd ePh;	( )
	(,).Vhp ePh;.	( )
	nlq;F fha;r;ry; nfhR nghJthf cw;gj;jpahFk; ,lk; vJ?	
7.	(m). ,Uz;l kw;Wk; mlh;j;jpahd ,lq;fs;	
	(M). jpwe;jntsp ,lq;fs;	
	(,). %ba ,lq;fs;.	( )
		( )
		( )
	nlq;F fha;r;rypdhy; ,uj;jpy; Vw;gLk; khw;wk; vd;d?	
8.	(m). ,uj;j rptg;G mDf;fs; Fiwjy;.	
	(M). ,uj; jl;Lfspd; vz;zpf;if Fiwjy;.	( )
	(,). ,uj;j nts;is mZf;fs; Fiwjy;.	( )
		( )
	nlq;F fha;r;rYf;fhz Kjd;ikahd mwpFwpfs; vd;d?.	
9.	(m). fz;gFjpia Rw;wp typ Vw;gLjy;	( )
	(M). %f;F gFjpia Rw;wp typ Vw;gLjy;	( )
	(,). fhJ gFjpia Rw;wp typ Vw;gLjy;.	( )
	nlq;F fha;r;rypdhy; ghjpf;fg;gl;lthpd; clypy; vg;nghOJ Kjy;	
10.	mhpg;G kw;Wk; nfhg;gsq;fs; Vw;gLfpd;wJ?	
	(m). Kjy; ehspy; ,Ue;J	( )
	(M). 3-tJ ehspypUe;J	( )
	(,). 12-tJ ehspypUe;J.	( )
	nlq;F fha;r;rypdhy; Vw;gLk; fLikahd ghjpg;G vd;d?	
11.	(m). fLikahd nlq;F fha;r;ry;	( )
	(M).nlq;F FUjp Nghf;F fha;r;ry;	( )
	(,). nlq;F mjph;r;rp $l;lf;Fwp.	( )

	jl;lZf;fspd; ruhrhp msT vt;tsT?	
12.	(m). 10>000 – 50>000	( )
	(M).1.5-4 yl;rk;	( )
	(,). 5.6-8.5 yl;rk;.	( )
	nlq;F FUjpNghf;F fha;r;rypd; mwpFwpfs; vd;d?	
13.	(m).jiytyp kw;Wk; fz;ghh;it Fiwjy;.	( )
	(M).,uj;jk; frpjy; kw;Wk; Njhy; rptj;jy;/ mhpg;G	( )
	(,). tPf;fk; kw;Wk; jiyRw;wy;.	( )
	nlq;F fha;r;riy Fzg;gLj;Jk; kUe;J vJ?	
14.	(m). Mz;b gahbf;	( )
	(M). Mz;b kNyhpah	( )
	(,). Mz;b igubf;];	( )
	ePh; njhl;bfis Rj;jg;gLj;Jk; Kiw vJ?	
15.	(m). gpspr;rpq; gTlh; gad;gLj;Jjy;	( )
	(M). rhjhuz ePiu gad;gLj;Jjy;	( )
	(,). Nrhg;G ePiu gad;gLj;Jjy;.	( )
	gfypy; nfhR fbg;gij jLf;Fk; Kiw vJ?	
16.	(m). nfhR kUe;Jfis gad;gLj;Jjy; kw;Wk;	( )
	KO Milfis cLj;Jtjd; %yk;.	( )
	(M). mbf;fb Fspg;gjd; %yk;.	( )
	(,). tPl;il guhkhpg;gjd; %yk;	
	ePhpy; nfhRf;fspd; cw;gj;jpia jLf;Fk; Kiwfs; vd;d?.	
17.	(m). FNshhpd; gad;gLj;Jjy;	( )
	(M). vz;nza; njspj;jy;	( )
	(,). jz;zPh; njhl;bfis %Ljy;.	( )

18.	njUf;fspy; cw;gj;jpahFk; nfhRf;fis mopf;Fk; Kiw vJ? (m).nfhR kUe;J mbj;jy; (M). jP ge;jk; Vw;Wjy; (,). rhzk; njspj;jy;.	( ) ( ) ( )
19.	fPo;fz;l nfhR xopg;ghd;fspy; mjpf tPhpakhdJ vJ?. (m). Mf;lehy;> (M). Mthd; vz;nza;> (,). (b.,.,.b) (il <j;ijy; NlhYthikl;).	( ) ( ) ( )
20.	,uj;j jl;lZf;fspd; vz;zpf;ifia mjpfhpf;f tPl;by; ifahsg;gLk; rpfpr;ir Kiw vd;d?. (m).gg;ghsp ,iy rhW gUFjy; (M). KUq;if ,iy rhW gUFjy; (,). ,sePh; gUFjy;	( ) ( ) ( )
21.	fPo;fz;litfspy; nlq;F fha;r;riy Fzg;gLj;Jk; MAh;Ntj rpfpr;ir Kiw VJ?. (m). jpUf;fLfk; NjdPh; (M). epyNtk;G FbePh; (,). fPohney;yp FbePh;.	( ) ( ) ( )
22.	vt;thW gg;ghsp ,iyr;rhW ,uj;j jl;lZf;fis mjpfhpf;fr;nra;fpwJ? (m). vYk;G k[;i[apd; nray;fis J}z;LfpwJ. (M). rpWePufj;jpd; nray;fis J}z;LfpwJ. (,). kz;zPuypd; nray;fis J}z;LfpwJ.	( ) ( ) ( )
23.	fhpf;fh> gg;ghsp ,iyapy; cs;slq;fpa nghUl;fs; vd;d>? (m). rg;Nghdpd;];> my;fyhl;];> fpisf;Nfhirl;]; (M). nkj;jdhy; (,). FNshNuh/ghk;.	( ) ( )

24.	nfhR GOfis mof;f rpwe;j Kiw vJ? (m). nfhR tiyfis gad;gLj;Jjy;. (M). mngl;il njspj;jy; (,). nfhRth;j;jpia gad;gLj;Jjy;	( )
25.	nlq;F fha;r;ry; ghjpf;fg;gl;lth;fs; cz;z Ntz;ba czT Kiw vd;d?. (m). fhu czT (M). ePh;r;rj;J epiwe;j czT (,). kpjkhd czT.	( ) ( ) ( ) ( ) ( ) ( )

gFjp – 3

nlq;F fha;r;riy jtph;f;f nray;Kiw kw;Wk; eltbf;iffis kjpg;gpLk; Nfs;tpfs;.

t.vz;	fz;fhzpf;fgLtiffs;	njhlh;e;J 2	rpyNtiy 1	xUNghJ ,y;iy 0
1.	nfhRf;fis mopf;f nfhRkUe;J gad;gLj;Jfpwhh;fs;.			
2.	nfhR fbg;gij jLf;f nfhRtiyfis gad;gLj;Jfpwhh;fs;.			
3.	tPl;L Rw;wp Njq;fp epw;Fk; fopT ePh;fis mg;GwgLj;Jfpwhh;fs;.			
4.	mlh;j;jpahd nrbnfhbfis mg;Gwg;gLj;Jfpwhh;fs;.			
5.	jz;zPh; ghuj;jpuq;fis %b itj;JUf;fpwhh;fs;.			
6.	Njitaw;w nghUl;fs; rhpahd Kiwapy; mg;Gwg;gLj;Jfpwhh;fs;. (c.jh) Njq;fha; %b> ePh;Fg;gp kw;Wk; gy.			
7.	tPl;bd; Nkw;gFjp kw;Wk; rhf;filapy; Njq;fp eph;f;Fk; fopTfis Rj;jk; nra;jpUf;fpwhh;fs;.			
8.	tPl;L foptiufspy; nfhR GOf;fspd; cw;gj;jpia ghpNrhjpf;fg;gLfpwJ.			
9.	nlq;F fha;r;riy Fzg;gLj;Jtjw;F gg;ghsp ,iyr;rhW kw;Wk; epyNtk;G FbePh; gad;gLj;Jfpwhh;fs;			
10.	tPl;by; cs;s ePh; Nrkpg;G njhl;bapy;			

	ePiu Rj;jk; nra;a FNshhpd; gad;gLj;Jfpwhh;fs;.			

ANNEXURE-2

Requisition Letter

From,

Mrs. Vishalatchi.T ,

II nd Year M.Sc (N),

Our Lady of Health College Of Nursing,

Thanjavur.

Through Principal,

To,

Subjects: Requisition for Validity

I am Mrs .vishalatchi .T, doing II yr M.sc (N), (child health nursing) in Our Lady of Health College of Nursing. I have under taken the following study under the Dr.M.G.R Medical University.

"A study to assess the effectiveness of computer assisted instruction on knowledge and practice regarding dengue fever among the mothers of school going children at selected villages, Thanjavur district."

I kindly request you to give your valuable comments &suggestion for the study.

Enclosures:

Proposal

Content

Tool

Yours Sincerely

(Mrs. Vishalatchi.T)

ANNEXURES -3

LIST OF EXPERTS

1. Dr.C.S.Senthilkumar, M.D (Paed),D.C.H,
   Consultant Pediatrician,
   Asst, Professor,
   Thanjavur Medical College,
   Thanjavur-4

2.Dr. Thangasaravanan.,M.D D.C.H.,

   Consultant Pediatrician
   Our Lady Health Hospital,
   Thanjavur-7

3.Mrs.Jothilakhsmi,M.Sc (N),

   Reader,

   Sacred Heart College Of Nursing,

   Madurai.

4.Mrs.Parasakthi M.Sc (N),

   Vice Principal,

   Dr.G.Sakunthala College Of Nursing,

   Trichy.

5.Mr. M.P. Venkatesan, M.sc (N),

   Lecturer,

   Vinayaka Missions College of Nursing,

   Karaikal, Puducherry(Ut).

ANNEXURES-6

TOOL

PART –DEMOGRAPHIC DATA OF MOTHERS OF SCHOOL GOING CHILDREN

Sample no:

Instruction: please read every item carefully and put a tick mark (✓) and indicate the response that you choose against the space provided.

S/No	DEMOGRAPHIC VARIABLES	RESPONSE
1	**Age Of The Mother:**	
	A.20-25 Yrs	[ ]
	B.25-30 Yrs	[ ]
	C.30-35 Yrs	[ ]
2	**Age Of Children:**	
	A.6-8 yrs	[ ]
	B.8-12 yrs	[ ]
	C. 12-15 yrs	[ ]
3	**Education Of The Mother:**	
	A. Elementary	[ ]
	B.Higher Secondary Education	[ ]
	C.College Education	[ ]
4	**Occupation Of The Mother:**	
	A.Coolie	[ ]
	B.Govt Employee	[ ]
	C.Business	[ ]
	D.Private Job	[ ]
	E.House Wife	[ ]

5	**Type Of Family:** A.Joint Family B. Nuclear Family	 [ ] [ ]
6	**Income Of Family (In Rupees):** A.Rs <3000 B.Rs 3000-5000 C.Rs5000-10000 D.Rs >10000	 [ ] [ ] [ ] [ ]
7	**Type Of House:** A.Terraced House B.Tiled House C. Kut House	 [ ] [ ] [ ]
8	**Previous Exposure To Dengue Fever Among Family Members:** A.Yes B.No	 [ ] [ ]
9	**Source Of Information :** A.Health Personnel B.Media C.Neighbors	 [ ] [ ] [ ]

ANNEXURES –6

INSTRUMENT (ENGLISH)

PART –II SEMI STRUCTURED KNOWLEDGE QUESTIONNAIRE

Q.NO	QUESTIONS	RESPONSE
1	What is the vector for dengue fever?	
	a) Mosquitoe	[ ]
	b) Tsetse fly	[ ]
	c) House flies	[ ]
2	Which type of mosquito causes dengue fever?	
	a) female anopheles	[ ]
	b) female aedes agypti	[ ]
	c) female culex	[ ]
3	What is the incubation period of dengue fever?	
	a) 3-14 days	[ ]
	b) 4-9 days	[ ]
	c) 10-12 days	[ ]
4	What is another name of dengue fever?	
	a) typhoid fever	[ ]
	b) yellow fever	[ ]
	c) break bone fever	[ ]
5	When the aedes aegypti mosquitos bite the human beings?	

	a) Morning and afternoon	[ ]
	b) Night &afternoon	[ ]
	c) Morning and evening	[ ]
6	On which water the aedes aegypti mosquitos are breed? a) Sewage water b) Clean water c) River water.	[ ] [ ]
7	Where is the common breeding habitat of aedes aegypti mosquitoes? a) Dark & crowded places b) Open places c) Closed places	[ ] [ ] [ ]
8	What is the change that occurs in blood in case of dengue fever? a) Decreased RBC count b) Decreased platelet count c) Decreased WBC count	[ ] [ ] [ ]
9	Which of the following is one of the predominant symptoms of dengue? a) Pain around & behind the eyes b) Pain around &behind the nose c) Pain around &behind the ears	[ ] [ ] [ ] [ ]
10	On which day onwards maculapapular rashes will arise? a) 3rd onwards b) 12th day onwards c) 1st day onwards	[ ] [ ]

11	What is the severe form of dengue fever? a) Classical dengue fever b) Dengue haemorrhagic fever c) Dengue Shock syndrome	[ ] [ ]
12	What is the normal platelet count? a) 10, 000-50,000 b) 1.5-4 lakhs c) 5.6-8.5 lakhs	[ ] [ ]
13	What are the signs of DHF? a) Headache,blurred vision b) Echymosis,generalized rash c) Swelling ,giddiness	[ ] [ ]
14	What is the supportive treatment of choice for dengue fever? a) Antibiotics drugs b) Antimalarial drugs c) Antipyretics drugs	[ ] [ ]
15	Which is used to clean the water tank? a) Bleaching powder b) Normal water c) Soap and water	[ ] [ ] [ ]
16	What is the preventive method of aedes mosquito breeding in drinking water? a) Chlorination b) Pouring the oil c) Covering the vessels with cloth	[ ] [ ] [ ]
	What is the preventive method for mosquito bite in day time? a) Using mosquito repellants b) Taking bath frequently c) Cleaning the house	[ ] [ ] [ ]
	What method is used to kill the mosquitoes?	

17	a) Mosquito spraying b) Flame bean c) Cow dung sprinkling	[ ] [ ] [ ]
	Which one of the following is the common mosquito repellents used to control mosquito breeding?	
18	a) Octonol b) Avon oil c) DEET (diethyl toluamide)	[ ] [ ] [ ]
	What is the home remedy to increase the platelet count?	
19	a) Drinking papaya leaf extract b) Drinking drumstick leaf juice c) Drinking tender coconut	
	Which one of the following home remedy is used as an alternative treatment for dengue fever?	[ ] [ ] [ ]
	a) Thirukadugam b) Nilavembu kudineer c) Keelanelli juice	
20	How the papaya leaf extract increases the platelet count in the blood?	[ ] [ ] [ ]
	a) Stimulate the function of bone marrow b) Stimulate the function of kidney c) Stimulate the function of spleen	
21	What is the component of carica papaya leaves?	[ ] [ ] [ ]
	a) Saponins,Tannins, Alkaloids.Glycosides b) Methanol c) Chloroform	
22	What is the best method used to kill the larva?	
	a) Using mosquito net b) Using abate solution c) Using mosquito coils	[ ] [ ] [ ]
	What kind of food is recommended for dengue affected children?	

23	a) Spicy diet b) Liquid diet c) Bland diet	[ ] [ ] [ ]
24		[ ] [ ] [ ]
25		[ ] [ ] [ ]

PART-III

SEMI STRUCTURED PRACTICE QUESTIONNAIRE

(OBSERVATIONAL CHECK LIST)

S.No	Questions	Always(2)	Sometime(1)	Never(0)
1	Use of mosquito repellents to reduce mosquito.	[ ]	[ ]	[ ]
2	Use of mosquito bed nets to prevent mosquito bite.	[ ]	[ ]	[ ]
3	Elimination of stagnant water around the house to reduce mosquito spread.	[ ]	[ ]	[ ]
4	Cut down bushes in the yard to reduce mosquito.	[ ]	[ ]	[ ]
5	Covering the water containers in the home	[ ]	[ ]	[ ]
6	Proper disposal of cubs ,coconut shells, discarded bottles etc	[ ]	[ ]	[ ]
7	Check &clean your roof gutters &clogged ditches, cans that can hold the water around houses.	[ ]	[ ]	[ ]
8	Examining the mosquito larvae is water container in the toilet.	[ ]	[ ]	[ ]
9	Use of home remedies such as papaya leaf extract ,nilavembu kudineer for treatment of dengue fever.	[ ]	[ ]	[ ]
10	Use the chlorination for cleaning water tanks.	[ ]	[ ]	[ ]

SCORING KEY PART-II

SEMI STRUCTURED KNOWLEDGE QUESTIONNAIRE

Q/NO	SCORE -1(OPTION)
1	a
2	b
3	a
4	c
5	c
6	b
7	a
8	b
9	a
10	a
11	a
12	b
13	b
14	c
15	a
16	a
17	a
18	a
19	c
20	a
21	b
22	a
23	a
24	b
25	b

SCORING KEY

PART-III

Q/NO	SCORE -2(OPTION)
1	Always
2	Always
3	Always
4	Always
5	Always
6	Always
7	Always
8	Always
9	Always
10	Always

ABSTRACT

A quasi experimental study was conducted to assess the effectiveness of computer assisted instruction on knowledge &practice regarding dengue fever among the mothers of school going children at selected villages, Thanjavur district. It was an evaluative approach non equivalent pre test post test control group design. 60 samples were selected by non probability convenient sampling technique. After the pre-test among experimental & control group, computer assisted instruction was given to experimental group followed by a post test,15 days later, for both group using the same tool in the same setting. The study findings revealed that CAI was effective in increasing knowledge & practice of mothers of school going children, 23(76.7%) had adequate knowledge & practice,7(23.3%) had moderate knowledge &practice, none of them had inadequate knowledge &practice. The mean pre test and post test knowledge scored among the experimental group was 10.26 and 21.43 respectively .The mean pre test and post test practice scored among experimental group was 9.93 and 14.73 respectively. There was a positive & significant correlation (r=0.7).The findings were statistically significant at 0.05 for knowledge and practice at level of significance 0.05.

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